Carrier Enterprise

Carrier/Bryant & Toshiba Carrier

VRF Start Up Guide














Ver. 2.6

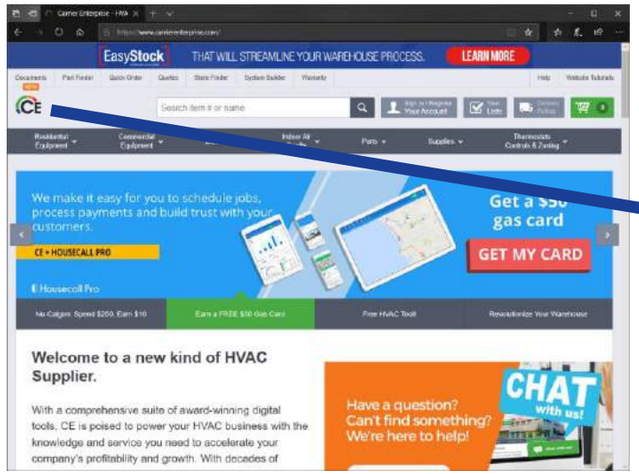
Your Resources for Information and Support

No Logon Required!!!

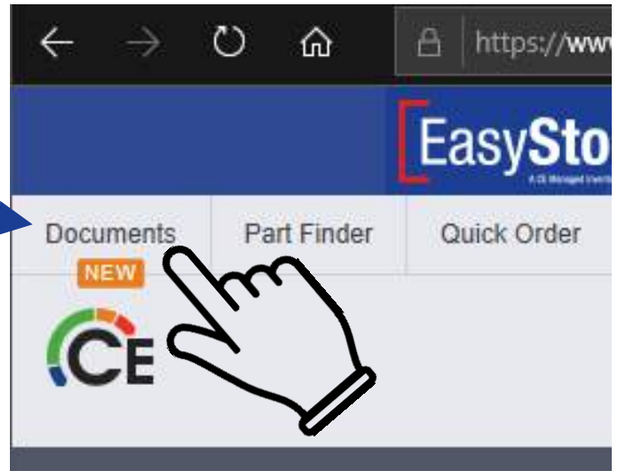
- Why Guess?? Information is too easy to get.
- Carrier Enterprise Website – ce.carrierenterprise.com
  1. From landing page, 1 click and enter beginning of model to search.
  2. **Example:** Type in 38MAR and select family shown. Install, Product Data, Service Manual and many other documents related to same product family.
  3. Select required manual and start reading.

Fastest by fewest actions!!!

Open



Click "Documents"



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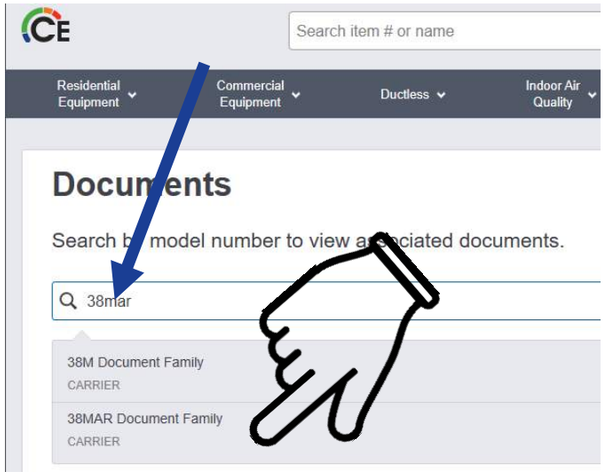


Your Resources for Information and Support

- Carrier Enterprise App –
  - Download & Play
  - 8 actions to start reading

Download on the App Store

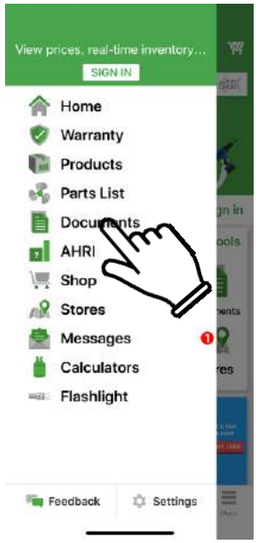
GET IT ON Google Play

No Logon Required!!!

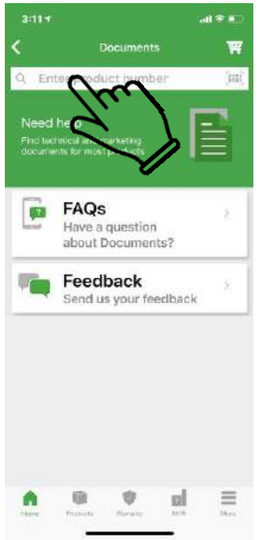
Click

Click

Click



Enter model



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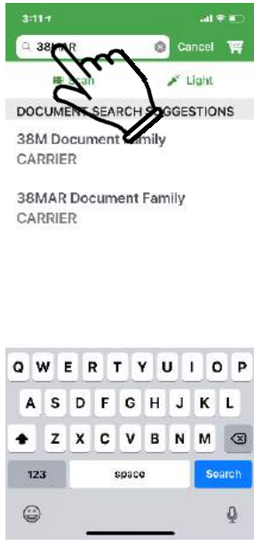

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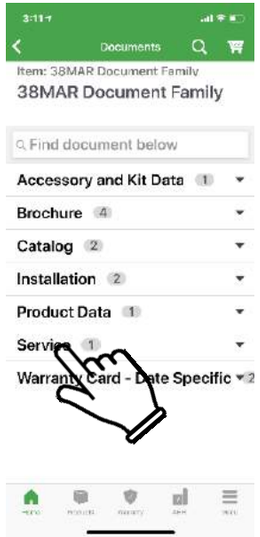
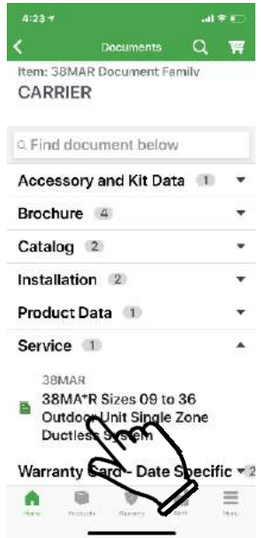


Pick version

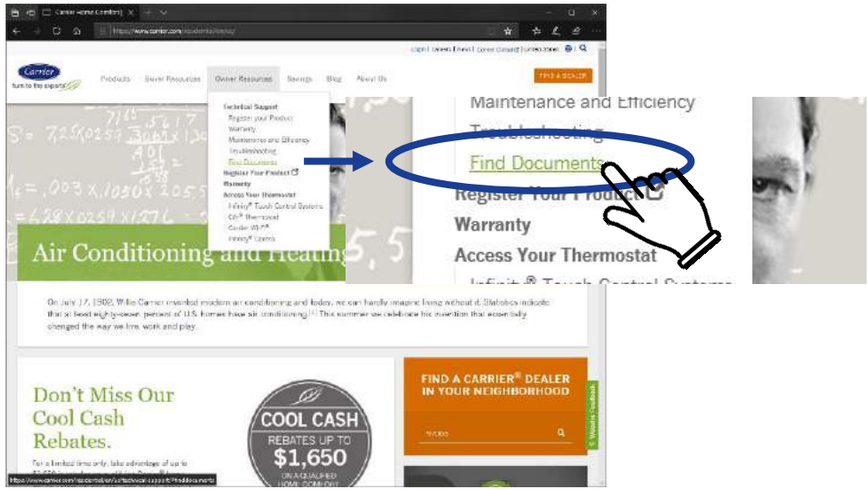


Enjoy!

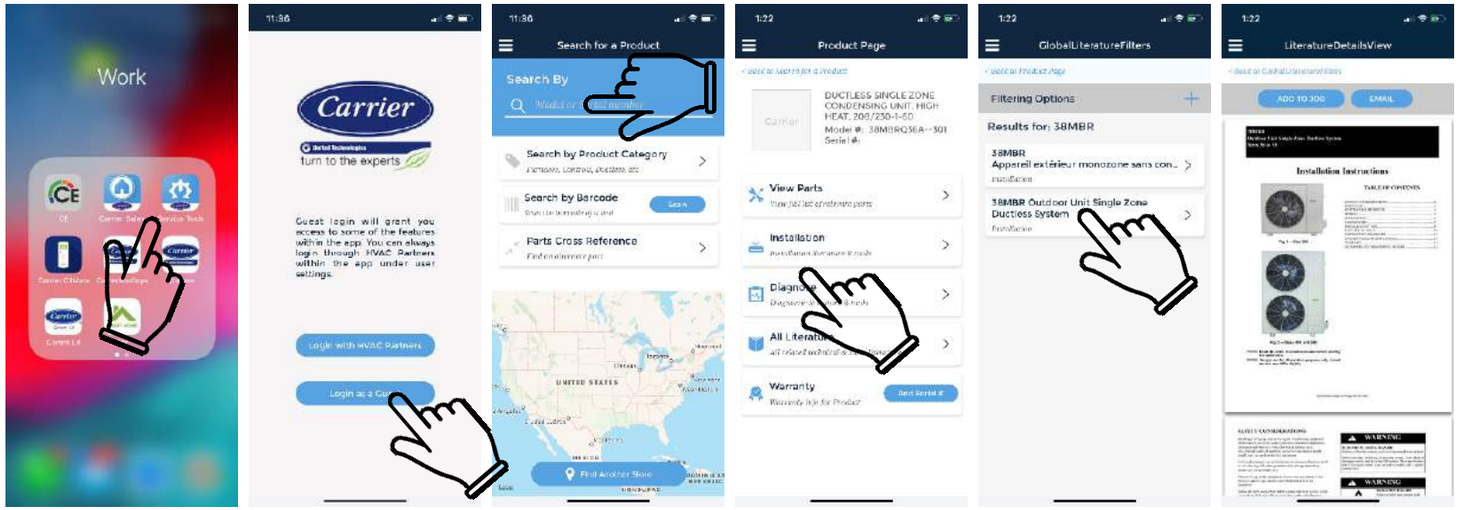
Your Resources for Information and Support

Other sources for Carrier information

- Carrier Website – www.carrier.com
  - From landing page: “Owner Resources” drop down, click “Find Documents”. 3 Actions and enter model to search.
- Carrier “Service Tech” App
  - 6 actions to start reading



Click Click Enter model Select unit Select version Enjoy!

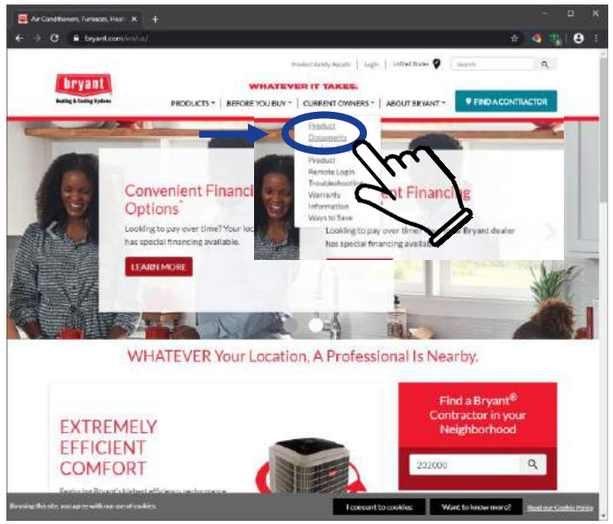


No Logon Required!!!

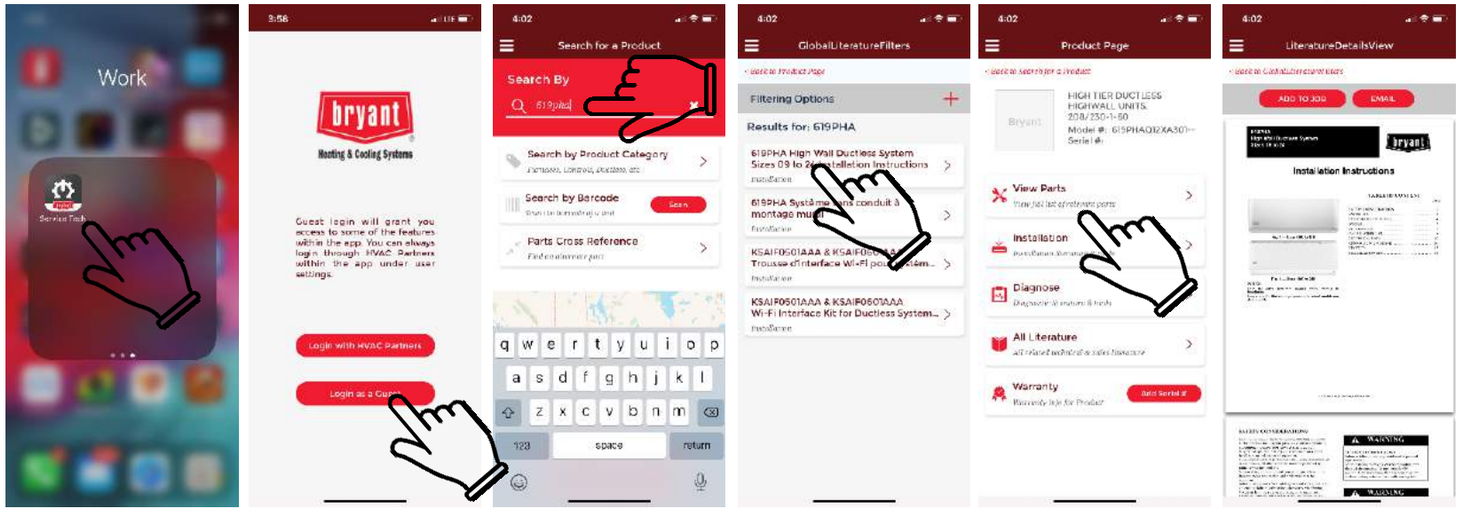
Your Resources for Information and Support

Other sources for Bryant information

- Bryant Website – www.bryant.com
  - From landing page: “Current Owners” drop down, click “Product Documents”. 3 Actions and enter model to search.
- Bryant “Service Tech” App
  - 6 actions to start reading



Click Click Enter model Select unit Select version Enjoy!

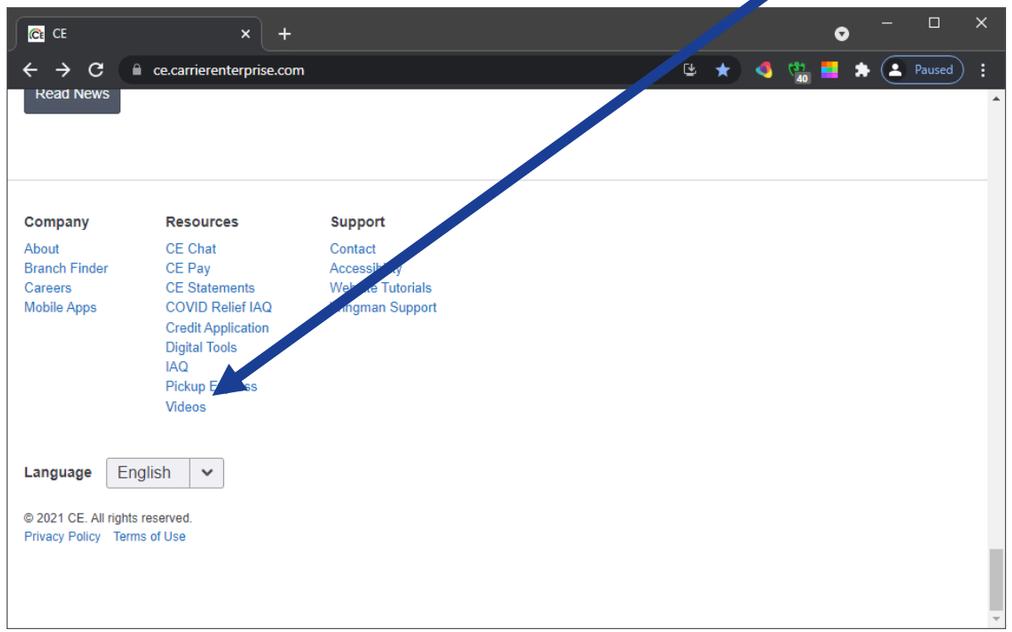


No Logon Required!!!

Your Resources for Information and Support

Carrier Enterprise's Self Guided Training Videos

- Go to: ce.carrierenterprise.com
- Scroll to the bottom of the page and click "Videos"
- 7 VRF Self-Guided Videos



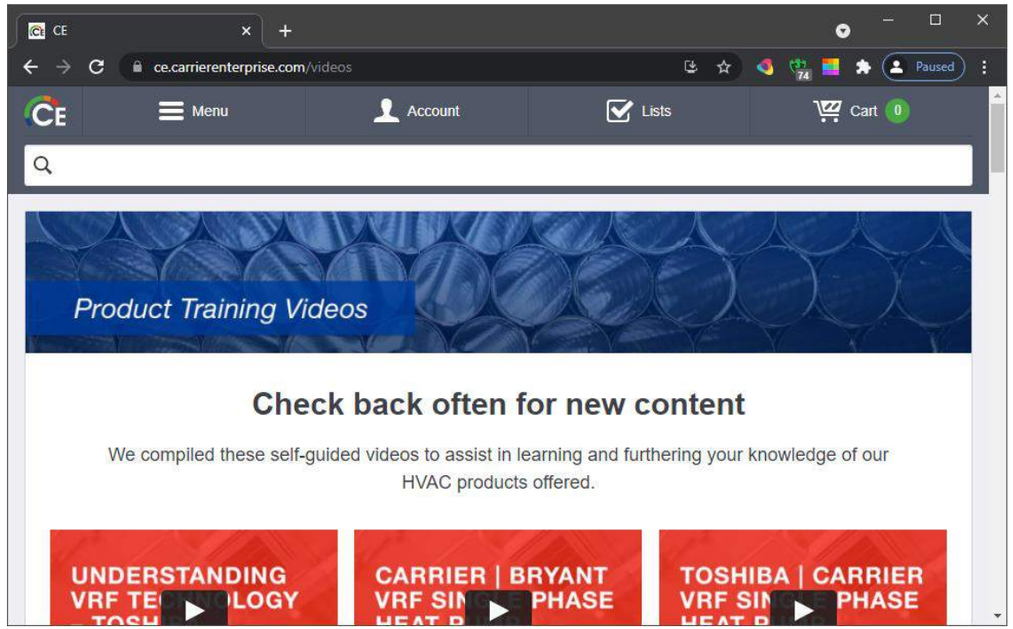


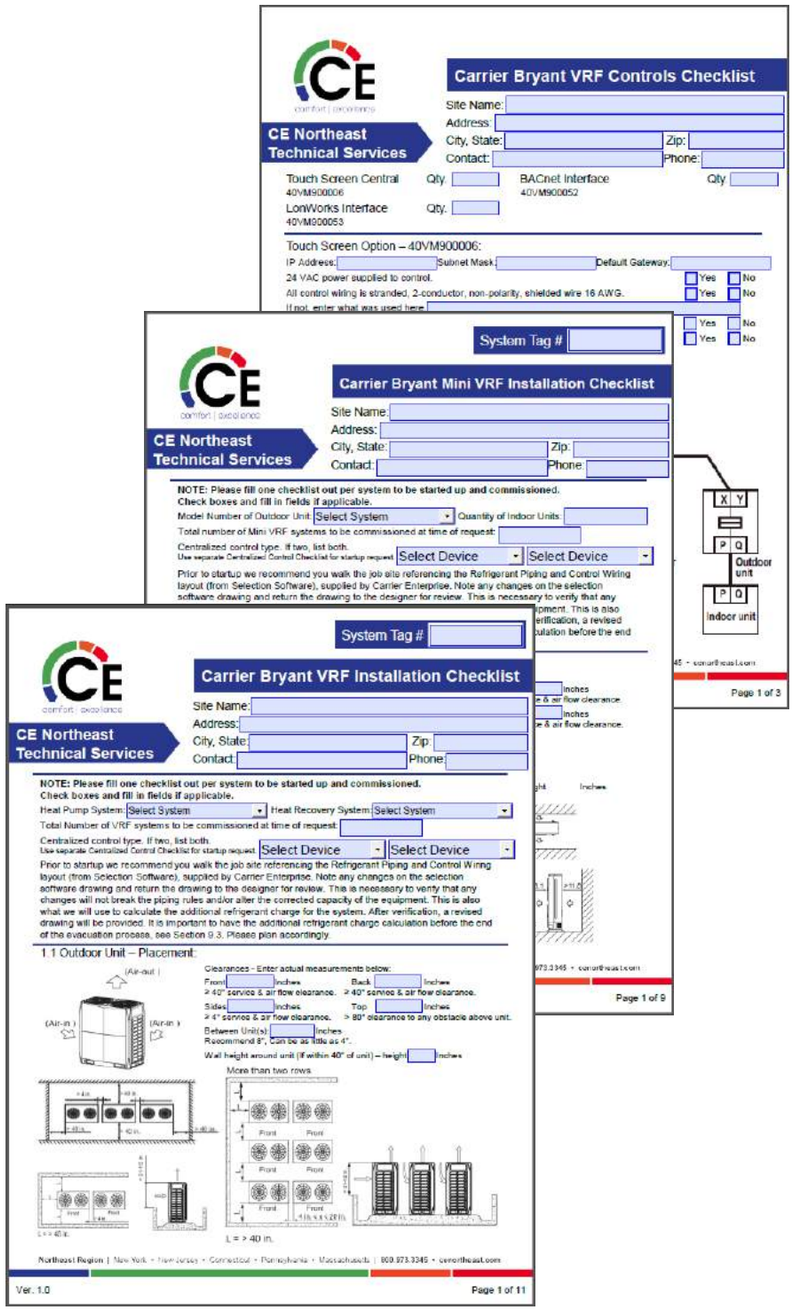
Table of Contents

Section – 1
Preplan for Start Up

Preplan for Start Up

How to Plan for Start Up Day

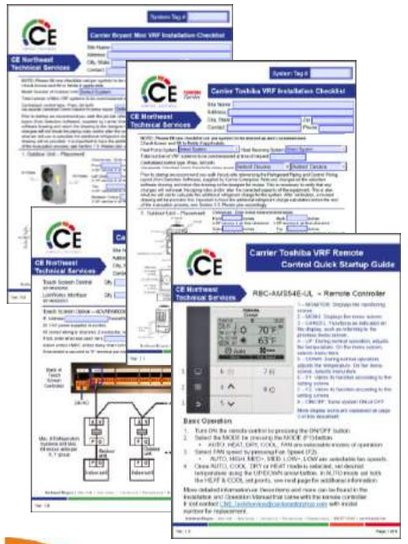
- Plan to book your Start Up date with CE Tech Support 2 weeks from planned Start Up date. We cannot always accommodate next day requests. Save time and plan ahead!
- Installation checklists must be filled out and sent back for review for each system to be started up.
- Also a Controls Checklist needs to be filled out if applicable.
- Send back updated piping info (with the checklists). CE can send the additional charge amounts so you can break the vacuum with the additional charge.
- Complete the install 100%
- Power up outdoor units 12hrs. before Start Up time. This is a MUST. Systems will not run otherwise and the safety's cannot be tricked.
- You are ready for Start Up!



Preplan for Start Up

How to Plan for Start Up Day

- Ready for Startup? Go here to start the process. www.carrierenterprise.com/ne/technical-support
- This process is for Carrier Enterprise Northeast, your region of CE may be different, check with your local CE tech support.

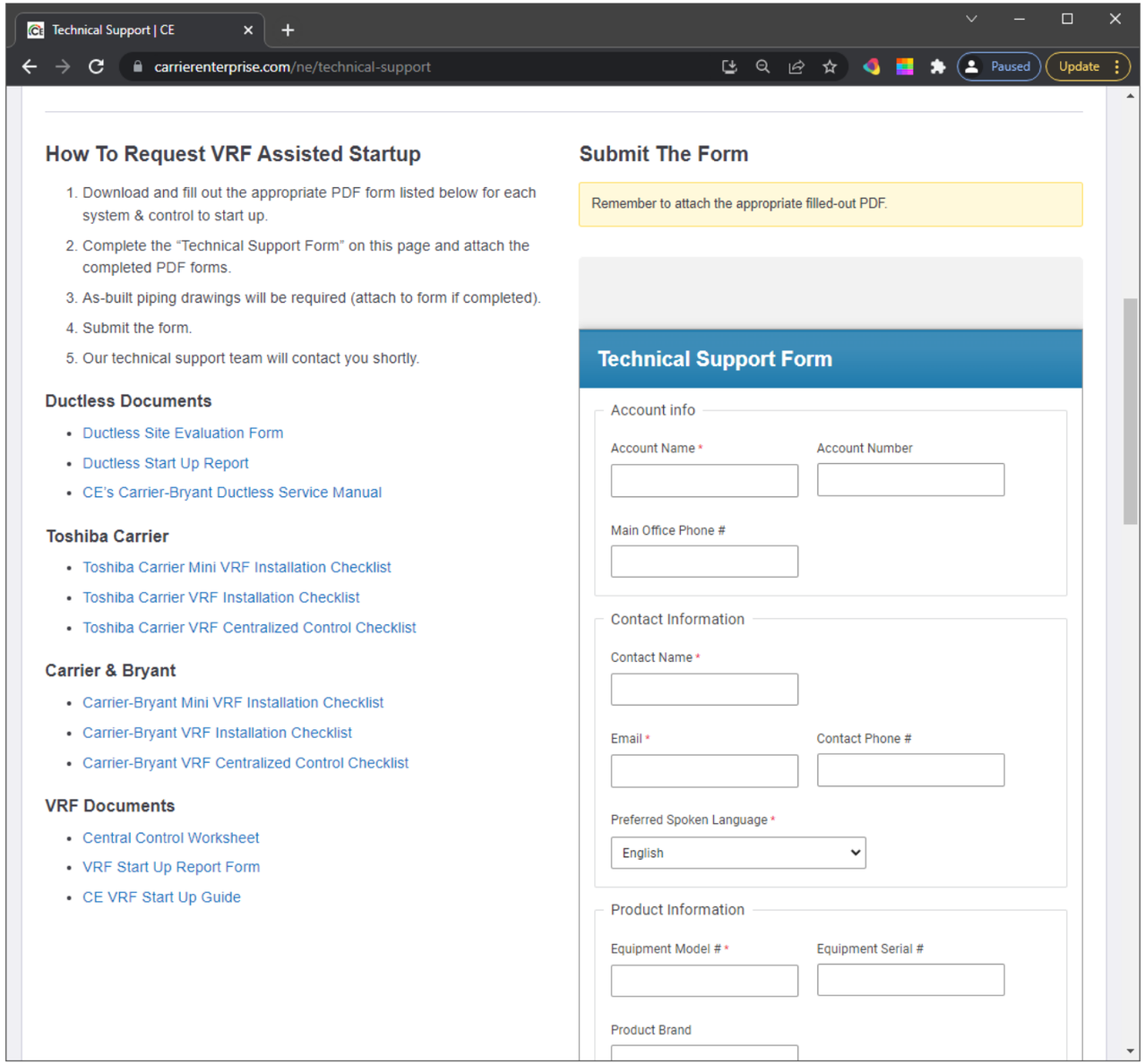


Scroll Down page to "VRF Start Up Information"

Download Install Checklist, Start Up Guide and more! After forms are complete, you can submit a case and attach the forms when ready.

Tech Support will contact you next to confirm the start up date

No Logon Required!!!



Preplan for Start Up

How to Plan for Start Up Day

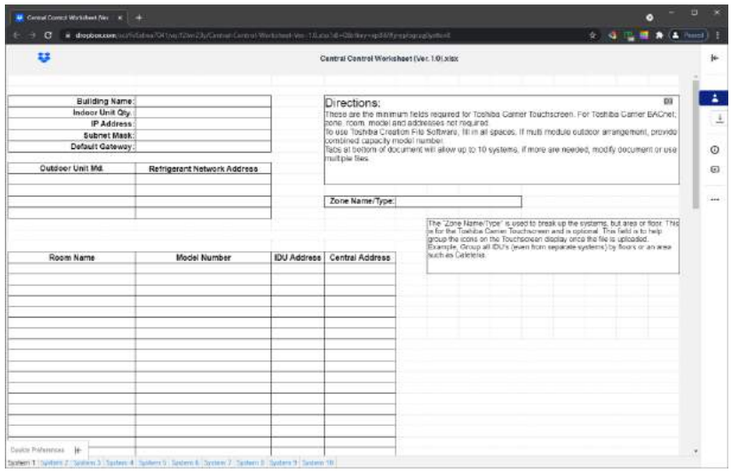
- This guide lays out a concise step by step process for Start Up of a properly installed Carrier and Bryant VRF system. It is intended to use in conjunction with the Installation/Operation Manuals that are shipped with the equipment. Copies of all should be on hand for Start Up.
- We have found on average, 90+% of all Start Up's have at least one communication error due to one or more field connections of the control wire.
- Units field wired incorrectly, wrong wire installed, shields not grounded, poor stripping of the wire or poor connection on the terminals are all very common install errors. Please don't be quick to blame a PCB.
- We have seen Molex connectors that became partially unplugged because they got bumped unknowingly during installation.
- If all your DIP switch settings are all set, power is recycled and errors are present after 20 minutes or more, work the error before continuing.
- Keep in mind when you Ohm out a wire and the meter beeps showing continuity, it just means there is at least one strand left connected. It's all about surface area, check to make sure the wire was not over stripped and all it's strands are still present and connected to the terminal.
- Some cases may require a temp wire run point to point to help diagnose.
- Work the error, use your meter & manuals and don't over think it. Good luck!

Preplan for Start Up

How to Plan for Start Up Day

- If you are not installing a Central Touchscreen, BACnet or other centralized control you can go to to the next page and skip this step.
- If you are installing a Touchscreen, BACnet or other knowing the IDU's address is required.
- Whether you use Auto Addressing or Manual methods. You will need a list or room names and their corresponding IDU address when you get to the Centralized Controls.
- Go to each controller and verify or set IDU's address, instructions on how are in this guide.
- If you have multiple VRF systems, record the refrigerant network number set in the ODU.
- All of this information will be needed to finalize the set up of the central controls.
- Use Excel, draw a map or just write the info down, use the way that is easiest for you to keep the information straight.
- We have a template to help keep it organized. Look on our Tech Support page to download.

Carrier	Model Number	Network Address	IDU Address
Room 101	40VMF015---3	1	1
Conference	40VMI024---3	1	2
Storage	40VML009---3	2	3
Office 202	40VMW030---3	2	4



Central Control Worksheet
https://ne.carrierenterprise.com/technical-support/

Section – 2
Carrier Bryant VRF

Models covered in Section 2 of this guide

Heat Pump – 3PH

38VMA072HDS5-1
38VMA096HDS5-1
38VMA120HDS5-1
38VMA144HDS5-1
38VMA168HDS5-1
38VMA192HDS5-1
38VMA216HDS5-1
38VMA240HDS5-1
38VMA264HDS5-1
38VMA288HDS5-1
38VMA312HDS5-1
38VMA336HDS5-1
38VMA360HDS5-1
38VMA384HDS5-1
38VMA408HDS5-1
38VMA432HDS5-1

38VMA072HDS6-1
38VMA096HDS6-1
38VMA120HDS6-1
38VMA144HDS6-1
38VMA168HDS6-1
38VMA192HDS6-1
38VMA216HDS6-1
38VMA240HDS6-1
38VMA264HDS6-1
38VMA288HDS6-1
38VMA312HDS6-1
38VMA336HDS6-1
38VMA360HDS6-1
38VMA384HDS6-1
38VMA408HDS6-1
38VMA432HDS6-1

Heat Pump – 1PH

38VMA036HDS3-1
38VMA048HDS3-1
38VMA060HDS3-1

Heat Recovery – 3PH

38VMA072RDS5-1
38VMA096RDS5-1
38VMA120RDS5-1
38VMA144RDL5-1
38VMA168RDS5-1
38VMA192RDS5-1
38VMA216RDS5-1
38VMA240RDS5-1
38VMA240RDL5-1
38VMA264RDS5-1
38VMA288RDS5-1
38VMA312RDS5-1
38VMA336RDS5-1

38VMA072RDS6-1
38VMA096RDS6-1
38VMA120RDS6-1
38VMA144RDL6-1
38VMA168RDS6-1
38VMA192RDS6-1
38VMA216RDS6-1
38VMA240RDS6-1
38VMA240RDL6-1
38VMA264RDS6-1
38VMA288RDS6-1
38VMA312RDS6-1
38VMA336RDS6-1

VRF Service Technical Tool

Attention:
Windows based PC only

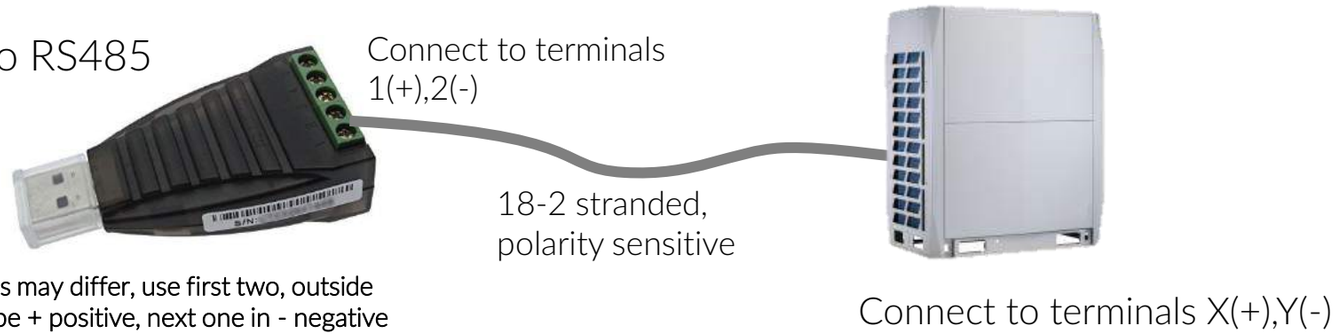
Carrier Bryant 38VM 1PH (2nd gen) & 3PH VRF Service Technical Tool Software (STT)

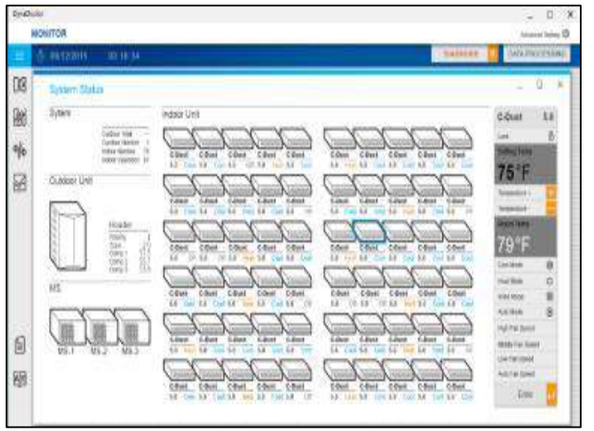
Connect a laptop and view/record all data points in the system for $30 bucks.

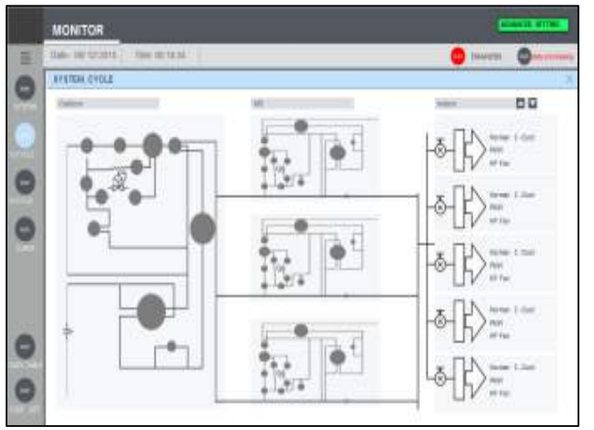
Records data automatically while connected. Very easy to see how the entire system is operating from your laptop during Start Up. Record a base line of data at Start Up. The most important tool when preforming yearly VRF maintenance. Make your life easier by ordering the RS485 and downloading/install the software before you get to the jobsite.

No one else does this for $30 bucks!

9.2021







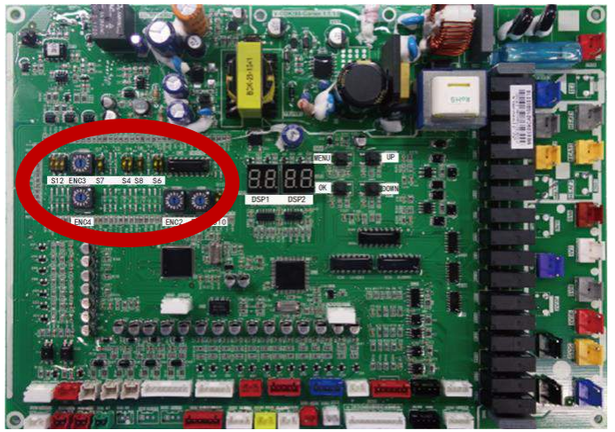
1. USB to RS485 Converter with driver disk
   Get online from Amazon, Tiger Direct and more. $30.00
2. Scrap piece of 2-wire. $0.00
3. Software from attending CENE CB VRF Training. $0.00

$30.00

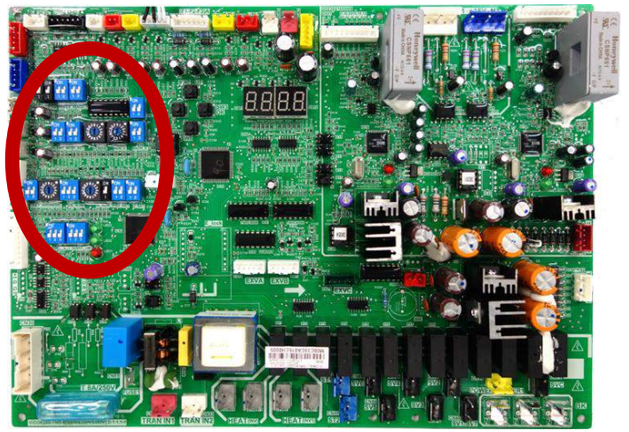
Getting **Started**

Carrier Bryant (CB) VRF Start Up Guide

1. CB VRF install is 100% complete. Additional charge added, stop valves opened. All wiring complete. Outdoor units, MDC Boxes, Indoor Units and Remote Controls all installed and ready to operate.
2. Power OFF & disconnect any Centralized Controller from Header outdoor units; Touchscreen, BACnet, LonWorks or other device connected to X & Y. Remove all connections from these terminals. These devices will be started up after all equipment is up and operating. If system has no controllers, one will be needed for Start Up. Recommended controller for this purpose – 40VM900003.
3. Outdoor units have had main power applied for a minimum of 12hrs. prior to Start Up. Internal safety in outdoor unit will keep system from operating if less than 12hrs. Cannot be tricked.
4. Open up the control boxes on the outdoor header units and MDC boxes (If HR) and prepare to set Rotary and DIP switches on the VRF system. The next few steps are the minimum amount needed for Start Up. If power is already ON, recycle all power after last switch position is changed.



HR Main PCB



HP Header Unit Main PCB

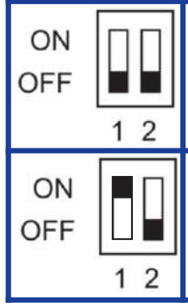
Setting Up **Outdoor Unit**

CB VRF Start Up Guide

5. HEAT RECOVERY ONLY, HEAT PUMP's go to step 6.

Test Operation (auto commissioning) Selection:

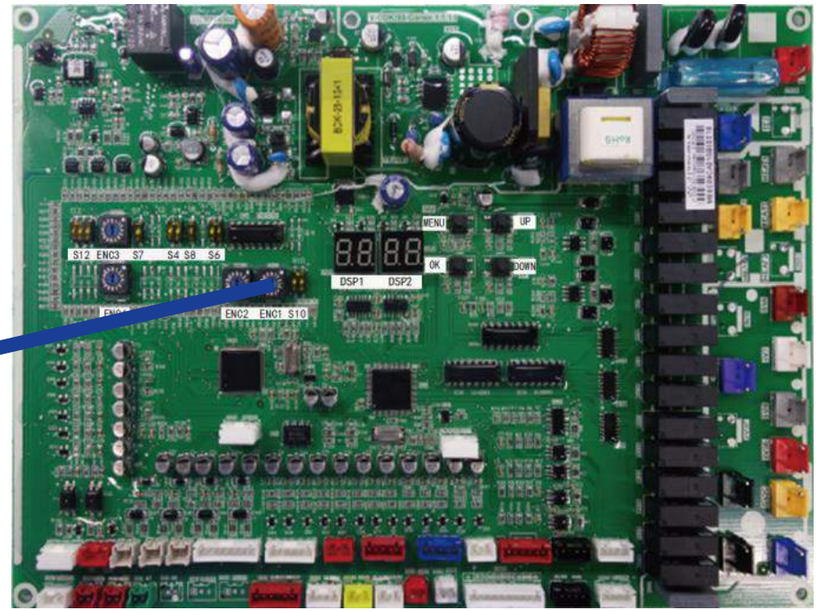
<u>Always change this setting for Heat Recovery</u>

S10	Test Operation Selection
	OFF, OFF = Skip Test Operation
	ON, OFF = Automatically Preforms Test Operation

S10

Default = OFF,OFF

HR Main PCB



The running time of the Test Operation (auto commissioning) is no less than <u>one hour</u>.

The following will be checked when the test is initiated checked:

1. Are the combination ratio allowable?
2. Is the operation limited by ambient temperature?
3. System starts up to operate cooling or heating mode based on outside and inside temperature.
4. Are the shutoff valves open?
5. Are all MDC ports detected?
6. Stop and display "End"

Setting Up **Outdoor Unit**

CB VRF Start Up Guide

6. 3PH HEAT PUMP & HEAT RECOVERY ONLY, 1PH HEAT PUMP go to step 10.

Snow Blowing Control: We recommend this setting in snow regions.

When this setting is enabled, during outdoor temperatures below 37F, the outdoor unit will cycle it's fan(s) for 2 minutes every 15 or 30 minutes depending on S11 DIP switch settings.

To enable this setting, once power is reapplied to the outdoor unit press and hold the SW5 button on the Header Unit's Spot Check Board for 15 seconds.

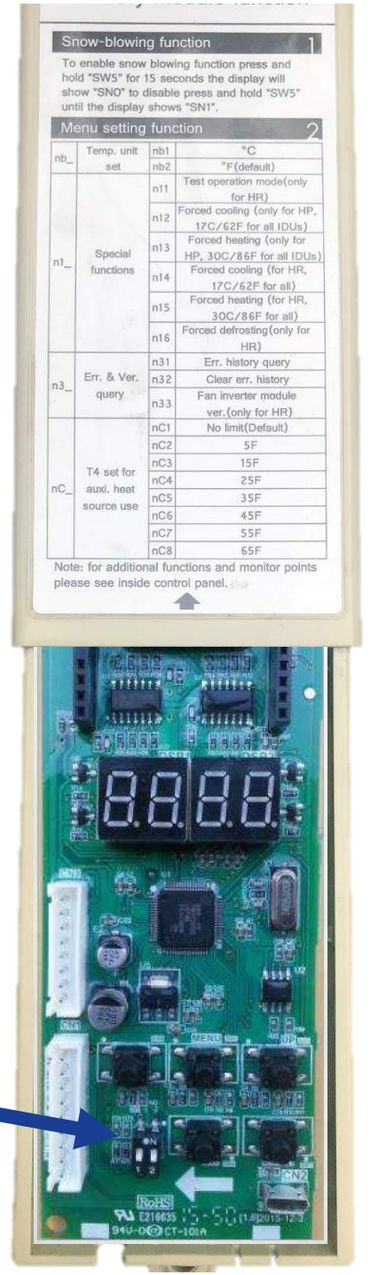
Once this is done, Sn0 will briefly appear in the display.

To deactivate, press SW5 again for 15 seconds, Sn1 will briefly display.

S11	Anti-Snow Time Set
ON OFF 1 2	15 Minutes (default when activated)
ON OFF 1 2	30 Minutes

S11

Default = OFF,OFF



Spot Check Board

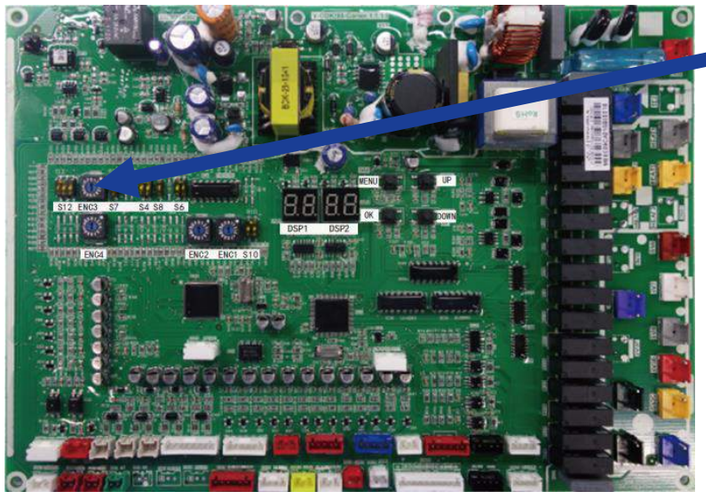
Setting Up **Outdoor Unit**

CB VRF Start Up Guide

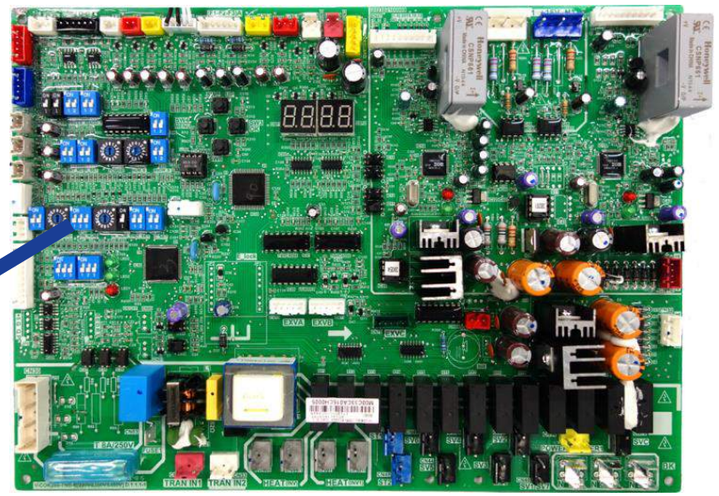
7. 3PH HEAT PUMP & HEAT RECOVERY ONLY, 1PH HEAT PUMP go to step 10.

Set indoor unit quantity connected to Header outdoor unit. Using the DIP and rotary switches shown below, select the number of indoor units (IDU).

HR Main PCB



HP Main PCB



S12 Default = OFF, OFF, OFF
ENC3 Default = 0

The IDU QTY. setting S12 and ENC3 have to equal the actual IDU QTY, the max. is 64 indoor units in a system, otherwise system will error H7.

Chart on next slide shows indoor unit quantities & switch settings.

Indoor Unit Qty. Setting Chart

CB VRF Start Up Guide

# of IDU's	S12	ENC3	# of IDU's	S12	ENC3	# of IDU's	S12	ENC3	# of IDU's	S12	ENC3
default	OFF, OFF, OFF	0	16	OFF, OFF, ON	0	32	OFF, ON, OFF	0	48	OFF, ON, ON	0
1	OFF, OFF, OFF	1	17	OFF, OFF, ON	1	33	OFF, ON, OFF	1	49	OFF, ON, ON	1
2	OFF, OFF, OFF	2	18	OFF, OFF, ON	2	34	OFF, ON, OFF	2	50	OFF, ON, ON	2
3	OFF, OFF, OFF	3	19	OFF, OFF, ON	3	35	OFF, ON, OFF	3	51	OFF, ON, ON	3
4	OFF, OFF, OFF	4	20	OFF, OFF, ON	4	36	OFF, ON, OFF	4	52	OFF, ON, ON	4
5	OFF, OFF, OFF	5	21	OFF, OFF, ON	5	37	OFF, ON, OFF	5	53	OFF, ON, ON	5
6	OFF, OFF, OFF	6	22	OFF, OFF, ON	6	38	OFF, ON, OFF	6	54	OFF, ON, ON	6
7	OFF, OFF, OFF	7	23	OFF, OFF, ON	7	39	OFF, ON, OFF	7	55	OFF, ON, ON	7
8	OFF, OFF, OFF	8	24	OFF, OFF, ON	8	40	OFF, ON, OFF	8	56	OFF, ON, ON	8
9	OFF, OFF, OFF	9	25	OFF, OFF, ON	9	41	OFF, ON, OFF	9	57	OFF, ON, ON	9
10	OFF, OFF, OFF	A	26	OFF, OFF, ON	A	42	OFF, ON, OFF	A	58	OFF, ON, ON	A
11	OFF, OFF, OFF	B	27	OFF, OFF, ON	B	43	OFF, ON, OFF	B	59	OFF, ON, ON	B
12	OFF, OFF, OFF	C	28	OFF, OFF, ON	C	44	OFF, ON, OFF	C	60	OFF, ON, ON	C
13	OFF, OFF, OFF	D	29	OFF, OFF, ON	D	45	OFF, ON, OFF	D	61	OFF, ON, ON	D
14	OFF, OFF, OFF	E	30	OFF, OFF, ON	E	46	OFF, ON, OFF	E	62	OFF, ON, ON	E
15	OFF, OFF, OFF	F	31	OFF, OFF, ON	F	47	OFF, ON, OFF	F	63	OFF, ON, ON	F
									64	ON, OFF, OFF	0

Indoor unit quantities & DIP switch settings

Setting Up **Outdoor Unit**

CB VRF Start Up Guide

8. 3PH HEAT PUMP ONLY, HEAT RECOVERY go to step 9,
   1PH HEAT PUMP go to step 10.

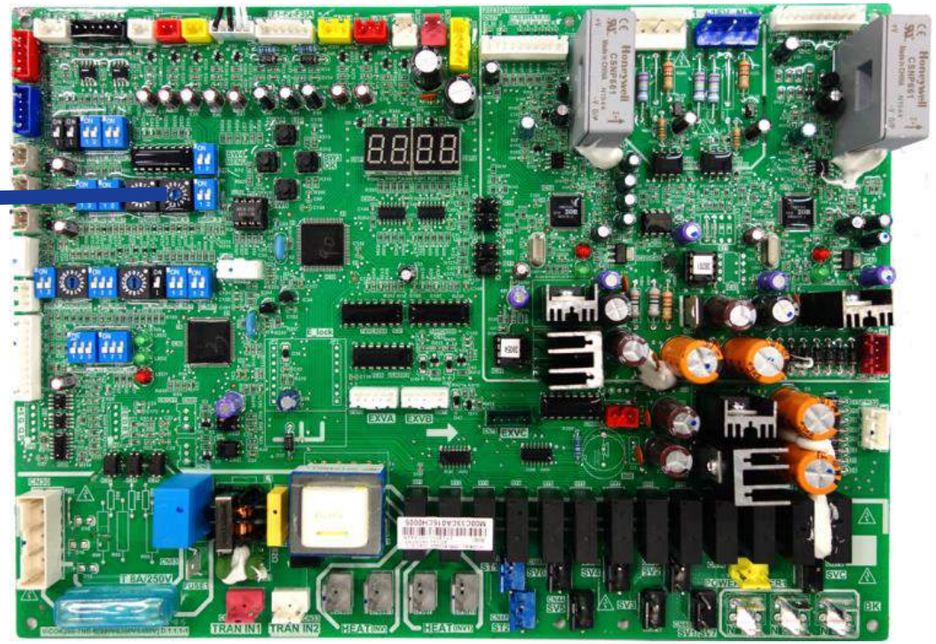
Set Address for Heat Pump Header and Follower outdoor units.

ENC1	Outdoor unit address
0	Header unit
1	Follower unit 1
2	Follower unit 2
≥3	Invalid address, lead to system error

ENC1

Default = 0

HP Main PCB



Setting Up **Outdoor Unit**

CB VRF Start Up Guide

9. 3PH HEAT PUMP & HEAT RECOVERY ONLY,
   1PH HEAT PUMP go to step 10.

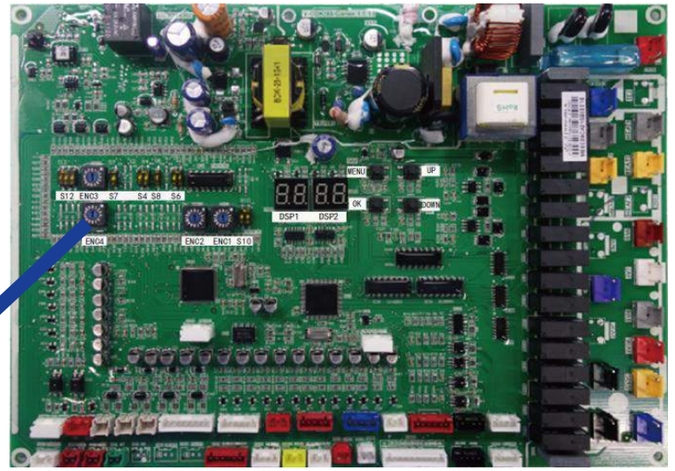
Set Network address on Header outdoor units.

If no centralized controller or interface will be connected to X, Y terminals, this step can be skipped.

If Touchscreen, BACnet, LonWorks or Interface will be connected to X, Y terminals each system must have a different network address. Up to 8 systems can be connected to one network. Large jobsites will have multiple networks, consult with CE Tech Support if you have questions.

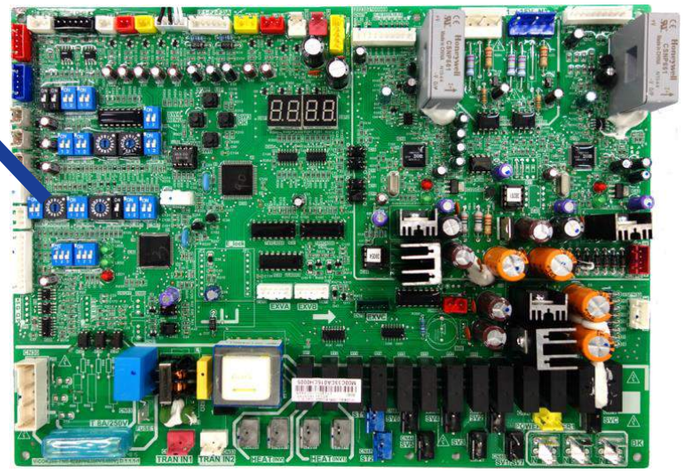
0 = 1 system 1 = 2 systems
2 = 3 systems 3 = 4 systems
4 = 5 systems 5 = 6 systems
6 = 7 systems 7 = 8 systems
≥8 = Invalid address, lead to system error

HR Main PCB



Default = 0

HP Main PCB



Setting Up **Outdoor Unit**

CB VRF Start Up Guide

10. 1PH HEAT PUMP ONLY, HEAT RECOVERY go to step 11,
    3PH HEAT PUMP got to step 15.

Set Network address on Header outdoor units.

If no centralized controller or interface will be connected to X, Y terminals, this step can be skipped.

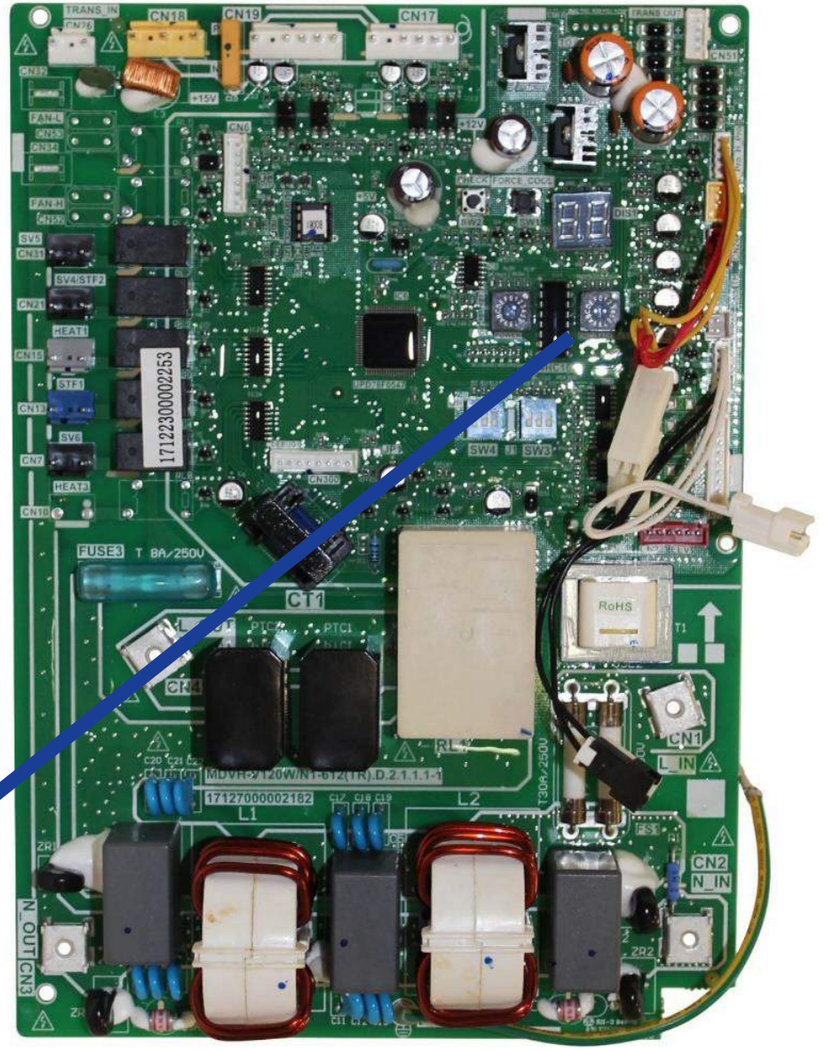
If Touchscreen, BACnet, LonWorks or Interface will be connected to X, Y terminals each system must have a different network address. Up to 8 systems can be connected to one network. Large jobsites will have multiple networks, consult with CE Tech Support if you have questions.

0 = 1 system	1 = 2 systems
2 = 3 systems	3 = 4 systems
4 = 5 systems	5 = 6 systems
6 = 7 systems	7 = 8 systems

≥8 = Invalid address, lead to system error

ENC2

Default = 0



1PH HP Main PCB

Setting Up MDC Box

CB VRF Start Up Guide

11. HEAT RECOVERY ONLY, ALL HEAT PUMP's go to step 15.

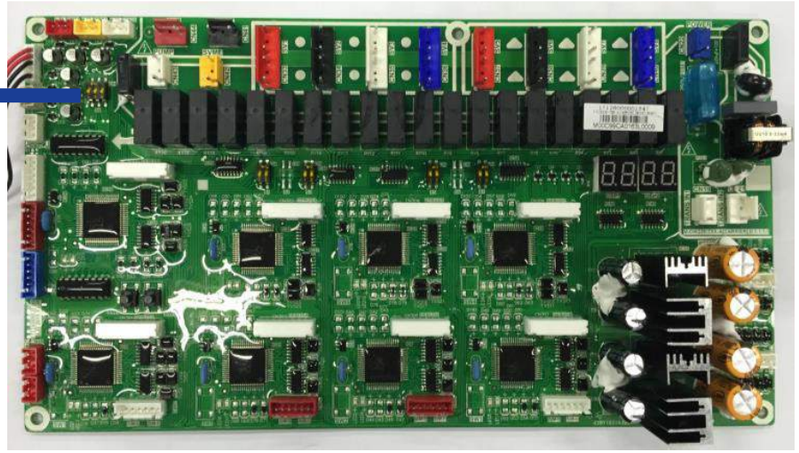
Set Address for Main MDC and sub MDC (S8) MDC control board with 8 chips. MDC Models – 40VMD006, 008, 010, 016M(S)—3

Attention:
Port No.1 must connect to an indoor unit.

S8

Default = OFF,OFF,OFF

MDC Main PCB



Default

POSITION 1, 2 — MDC IDENTIFICATION

OFF, OFF — Main MDC (default)
ON, OFF — Sub MDC Box 2
OFF, ON — Sub MDC Box 1
ON, ON — Reserved

Default

POSITION 3 — MDC BOARD IDENTIFICATION

ON — Second MDC Board
(This is set by the factory and cannot be changed)
OFF — Primary MDC Board

Setting Up MDC Box

CB VRF Start Up Guide

12. HEAT RECOVERY ONLY, ALL HEAT PUMP's go to step 15.

<u>VERIFY ONLY</u> address for Main MDC and sub MDC is correct
MDC with auxiliary control board. MDC Model – 40VMD010M(S)—3 Only

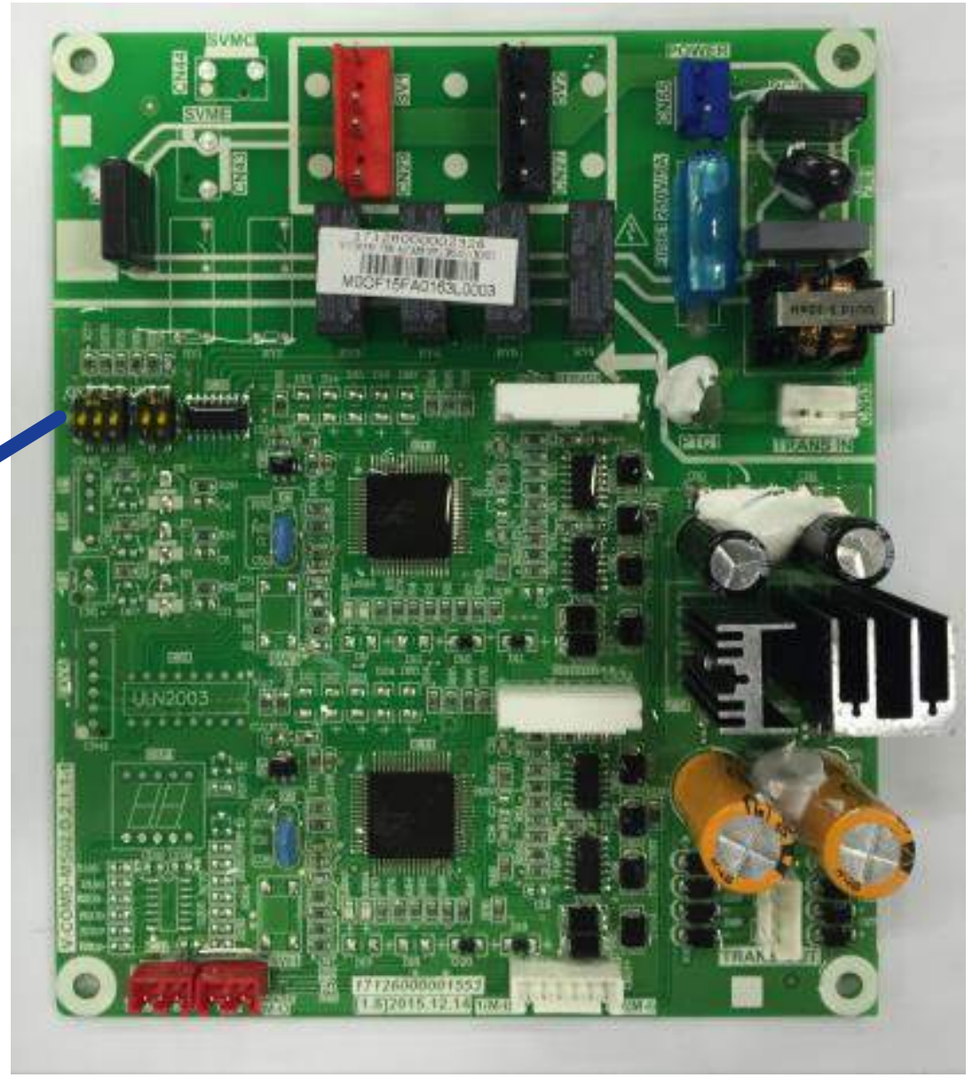
Default

Attention:
These DIP switches have been factory set. Don't change anything, just verify.

S8

Default = OFF,OFF,ON

MDC Auxiliary PCB



Setting Up MDC Box

CB VRF Start Up Guide

Attention:
Port No.1 must connect to an indoor unit.

13. HEAT RECOVERY ONLY, If no MDC ports are twinned go to step 15, ALL HEAT PUMP's go to step 15.

Default = OFF,OFF

If any MDC ports are twinned (piped) together, set appropriate DIP switch S1/S3/S5/S7
For indoor unit sizes 72K/96K only. MDC Models – 40VMD006, 008, 010, 016M(S)—3

Default

POSITION 1, 2 — S1 IDU PIPES SETTING — Ports 1,2 Twinned

OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together

POSITION 1, 2 — S3 IDU PIPES SETTING — Ports 3,4 Twinned

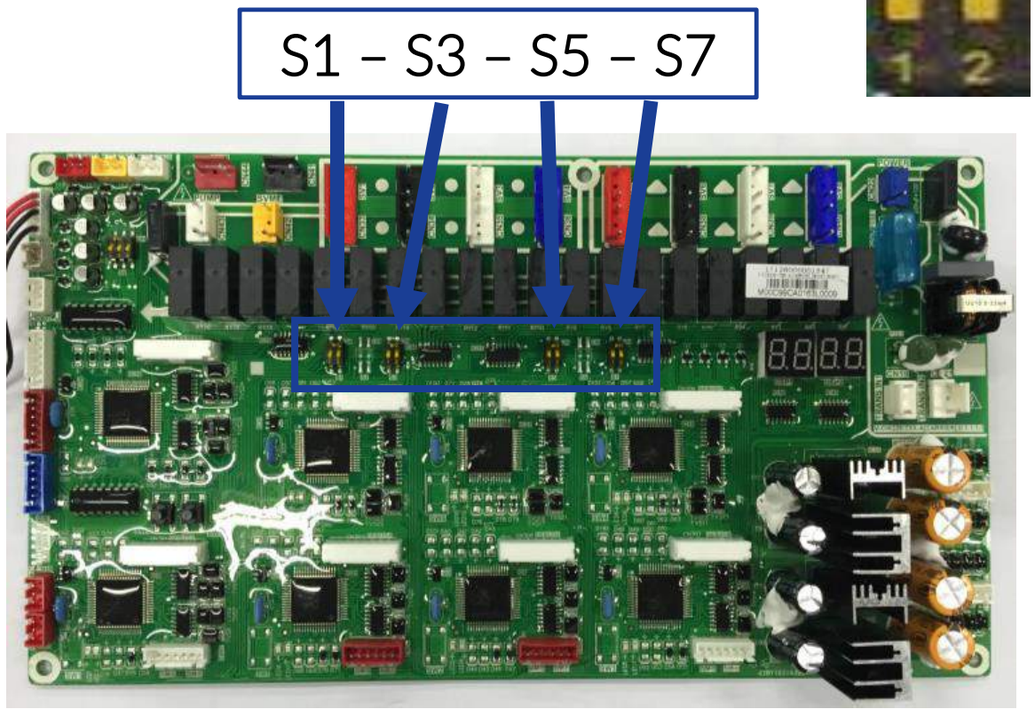
OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together

POSITION 1, 2 — S5 IDU PIPES SETTING — Ports 5,6 Twinned

OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together

POSITION 1, 2 — S7 IDU PIPES SETTING — Ports 7,8 Twinned

OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together



MDC Main PCB

If more Port merging is needed, always odd with next even one.
9,10 – 11,12 – 13,14 ~ 15,16.
Example – To merge ports 15,16 DIP switch S7 on corresponding PCB will be used.

Setting Up MDC Box

CB VRF Start Up Guide

14. HEAT RECOVERY ONLY, If no MDC ports are twinned go to step 15, ALL HEAT PUMP's go to step 15.

If MDC ports 9 & 10 are twinned (piped) together, set DIP switch S3
For indoor unit sizes 72K/96K only. MDC with auxiliary control board.
Model – 40VMD010M(S)—3 Only

Default

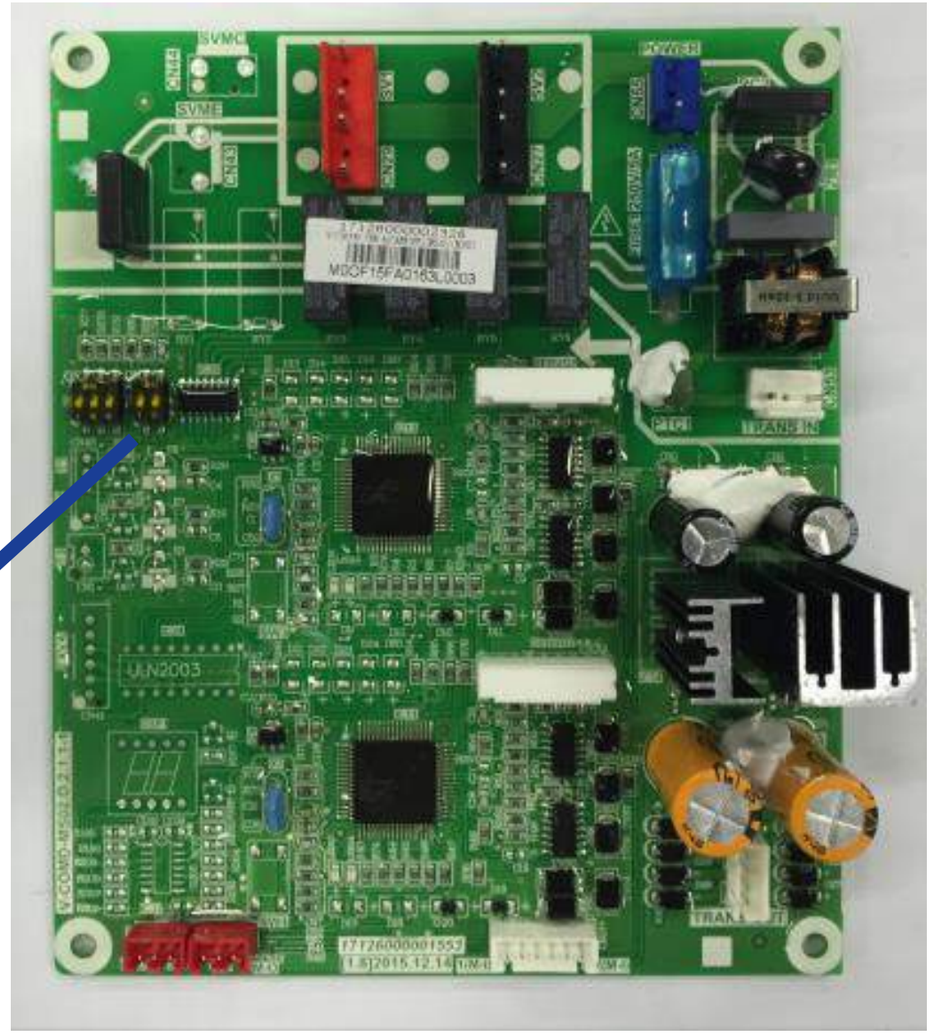
POSITION 1, 2 — S3 IDU PIPES SETTING

OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together

Ports 9,10 Twinned

S3

Default = OFF,OFF



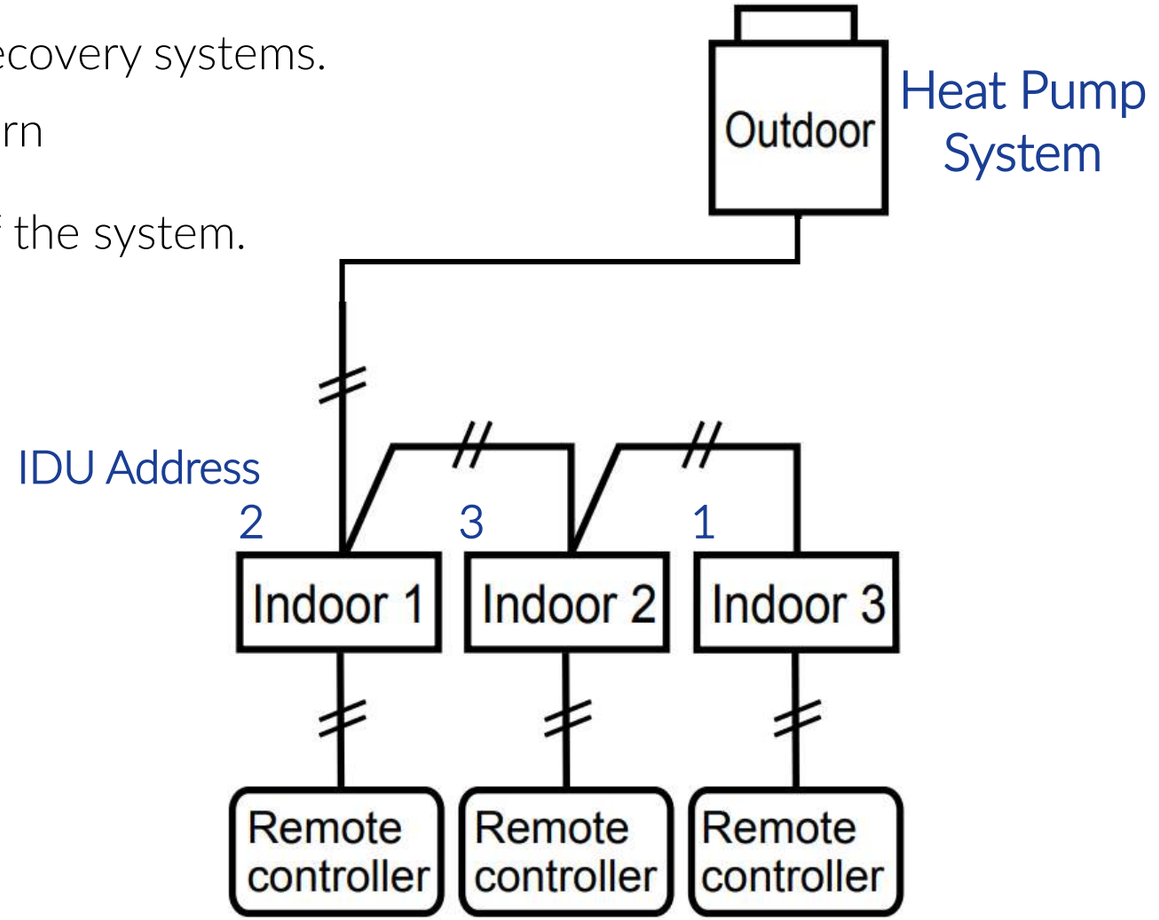
MDC Auxiliary PCB

Setting **Indoor Unit Address**

CB VRF Start Up Guide

15. Indoor Unit Addressing Explained

- Each Indoor unit must have an unique address for it to be recognized and controlled within the VRF system.
- Automatic Addressing is different for Heat Pumps and Heat Recovery systems.
- For Heat Pumps Automatic Addressing creates a random pattern across all indoor units, units next to each other will not have consecutive addresses. This will not matter to the operation of the system.
- The process normally takes less than 15 minutes to complete.

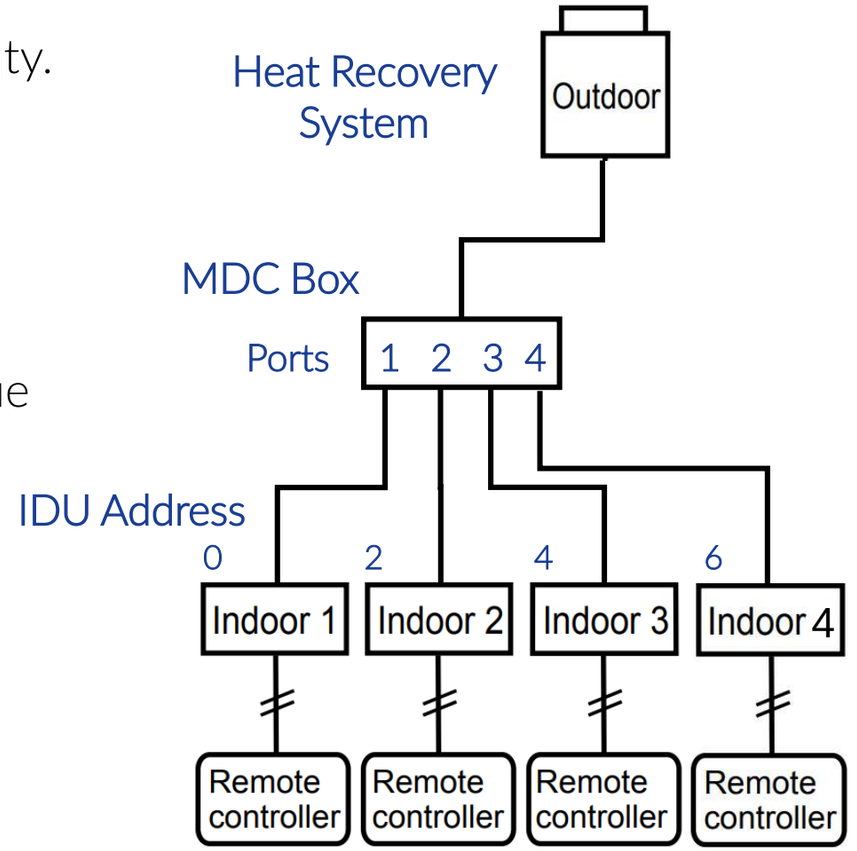


Setting **Indoor Unit Address**

CB VRF Start Up Guide

15. Indoor Unit Addressing Explained (end)

- Heat Recovery systems Automatically Address by the MDC boxes when they are powered up. Each port on a MDC box can have a maximum of two indoor units connected. Each port has it's own micro processor (chip) on the PCB. The main chip is always for Port. Port 1 must be connected to every time. The second chip is for Port 2, third for 3 and so on.
- The Main Chip will assign Port 1 Indoor Unit Addresses 0 or 1 depending on qty. of indoor units. The addresses may not always be assigned consecutively.
- The next chip/port will be assigned Indoor Address 2 & 3.
- The next chip/port assigned Indoor Address 4 & 5 and so on.
- When a Heat Recovery system has 2 or more sub MDC boxes, the automatic addressing for the sub 2 MDC box will set addresses from 64 and up. The issue with this is that local remote controllers cannot control any indoor unit with an address higher then 63. So if there are local remote controllers, you will need to go back in and manually set the address from the remote controller back to an address of 63 or lower making sure not to duplicate any of the addresses used.
- For larger Heat Recovery systems with 2 or more sub MDC boxes with local controllers it is better manually set all addresses during start up.



Setting **Indoor Unit Address**

CB VRF Start Up Guide

16. Automatically set indoor unit addresses for 3PH HEAT PUMP, 1PH HEAT PUMP go to step 17.
    HEAT RECOVERY go to step 18.

To use Auto Addressing leave DIP switch S6 in default position. If S6 is left in default position, once all equipment is powered up, all the indoor units will be automatically addressed. This process takes about 6 minutes.

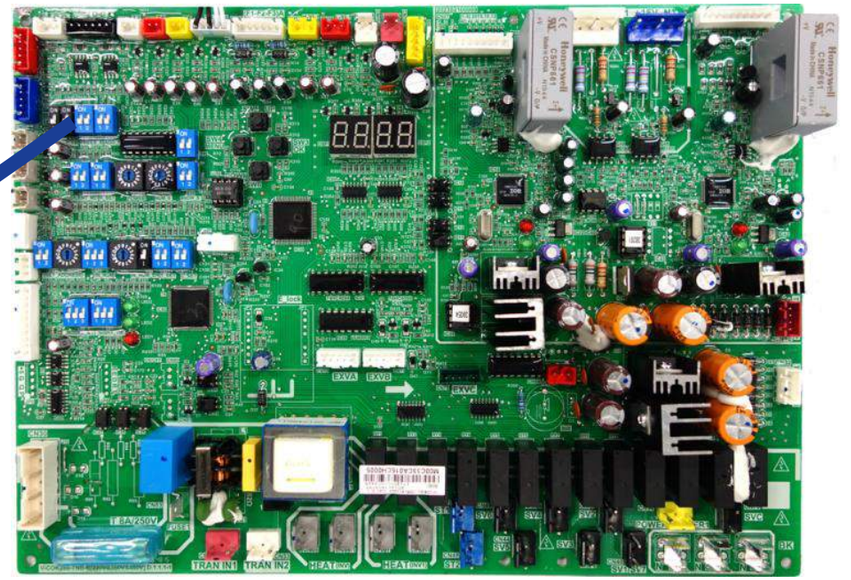
If a “FE” code is displayed on remote controller screen or display board of indoor unit if no address has been set.

To address manually, change DIP switch S6-2 to ON and use remote controller to address the indoor units, see steps 18 & 19.

S6	Auto addressing for IDU
ON / OFF 1 2	Auto addressing for each IDU (Default – OFF,OFF)
ON / OFF 1 2	Non-automatic addressing. OFF,ON (have to set by manual)
ON / OFF 1 2	Clear all indoor unit address. ON,OFF

S6

Default = OFF,OFF



HP Main PCB

Setting **Indoor Unit Address**

CB VRF Start Up Guide

17. Automatically set indoor unit addresses for HEAT PUMP 1PH.
    For manual addressing procedure do not change SW4 and go to step 18.

To use Auto Addressing change DIP switch SW4 from default position. If SW4 is left in default position, once all equipment is powered up the system all the indoor units will need to be manually addressed. When changed for Automatic address, once powered up, addressing will take approximately 6 minutes. If power was ON when DIP switch was changed, recycle power now.

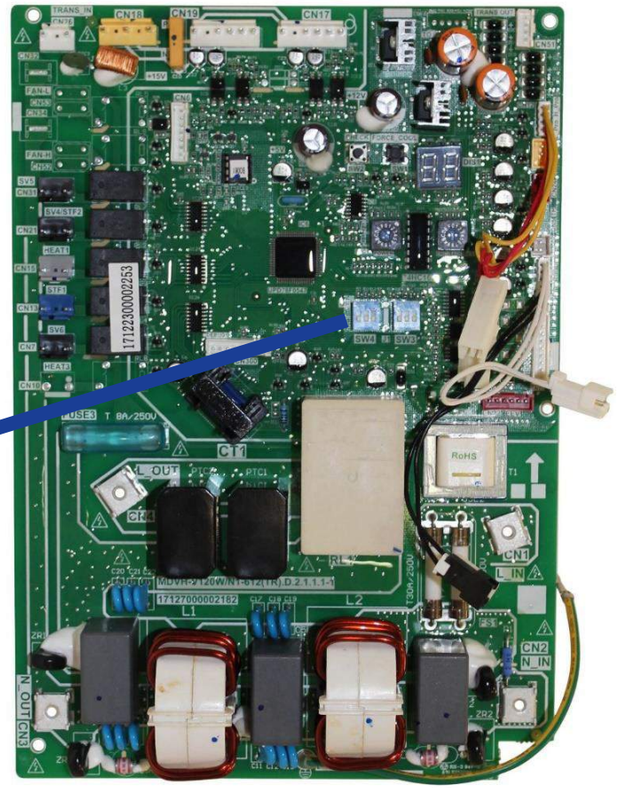
If a “FE” code is displayed on remote controller screen or display board of indoor unit if no address has been set.

To address manually, leave all DIP switches in their default position and use remote controller to address the indoor units, see steps 18 & 19.

SW4	Auto addressing for IDU
ON OFF 1 2 3	Non-automatic addressing Default – OFF,OFF,OFF
ON OFF 1 2 3	Automatic addressing ON,OFF,OFF

1PH HP Main PCB

Default = OFF,OFF,OFF



Setting **Indoor Unit Address**

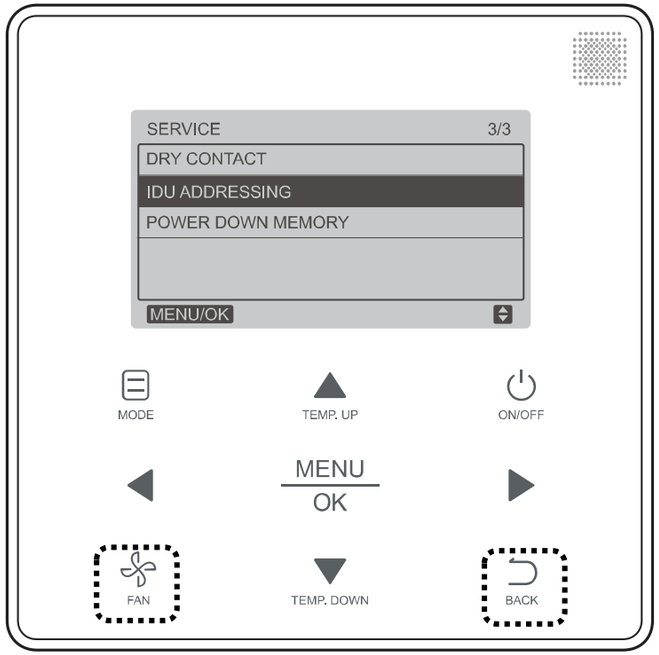
CB VRF Start Up Guide

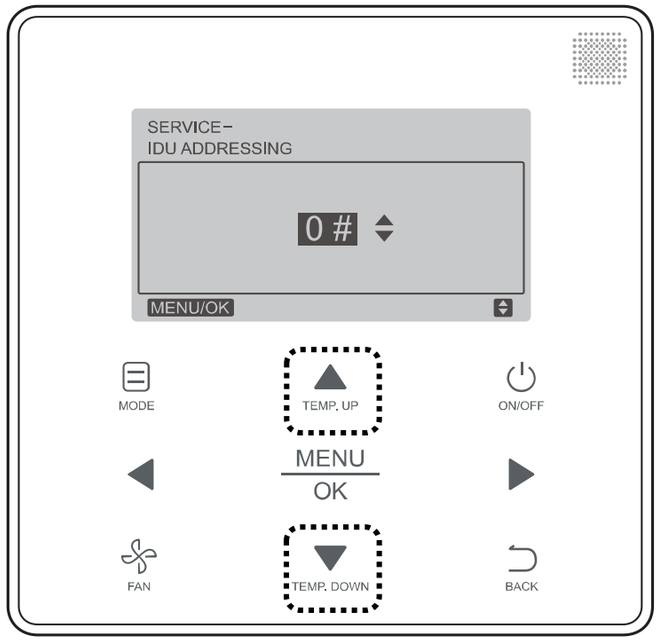
18. Manually set address for all IDU's for HEAT RECOVERY & HEAT PUMP.
    If you have a HEAT PUMP and have used the automatic process go to step 20.

How to address manually using the Wired Controller Md. 40VM900003

Addresses 0~63 can be used.

1. Press FAN and BACK simultaneously for 5 seconds to enter the interface for parameter settings.
2. Press TEMP. UP or TEMP. DOWN to move the cursor down and choose IDU ADDRESSING, then MENU/OK to enter this setting. 0~63 can be used.
3. Press TEMP. UP or TEMP. DOWN to choose the address No. you want to set, then MENU/OK to send this address to the IDU.
4. Press BACK twice or wait 30 seconds to automatically exit the parameter settings menu.





Setting **Indoor Unit Address**

CB VRF Start Up Guide

19. Manually set address for all IDU's for HEAT RECOVERY & HEAT PUMP

How to address manually using the Wireless Controller 40VM900002

Addresses 0~63 can be used.

1. Press 

and 

together for 3sec into the right interface. It displays FE# 00 if there is no address for this indoor unit, otherwise displays current address of the indoor unit.

2. Click 

or 

to change 00 to address number you want to set. Then press OK to confirm and exit the setting interface.

Setting **Indoor Unit Address**

CB VRF Start Up Guide

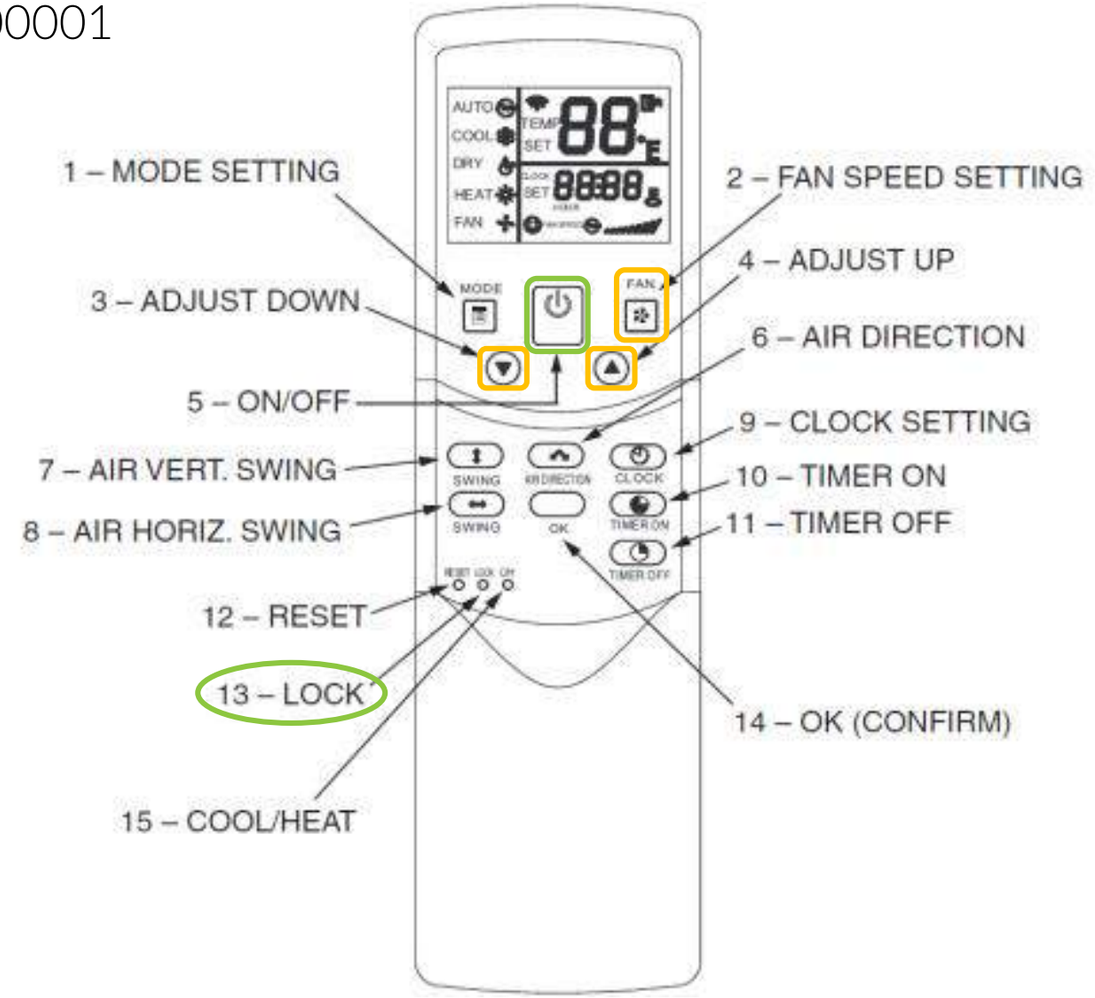
19. Manually set address for all IDU's for HEAT RECOVERY & HEAT PUMP

How to address manually using the Wireless Controller 40VM900001

Addresses 0~63 can be used.

Make sure wireless controller is pointed at receiver of IDU while setting.

1. Use tool to press and hold the "LOCK" button for more than 10 seconds and then press ⏻ button to activate.
2. Press ▲ or ▼ to select an address you want and then press FAN to send the setting.



24-Volt Interface Set Up

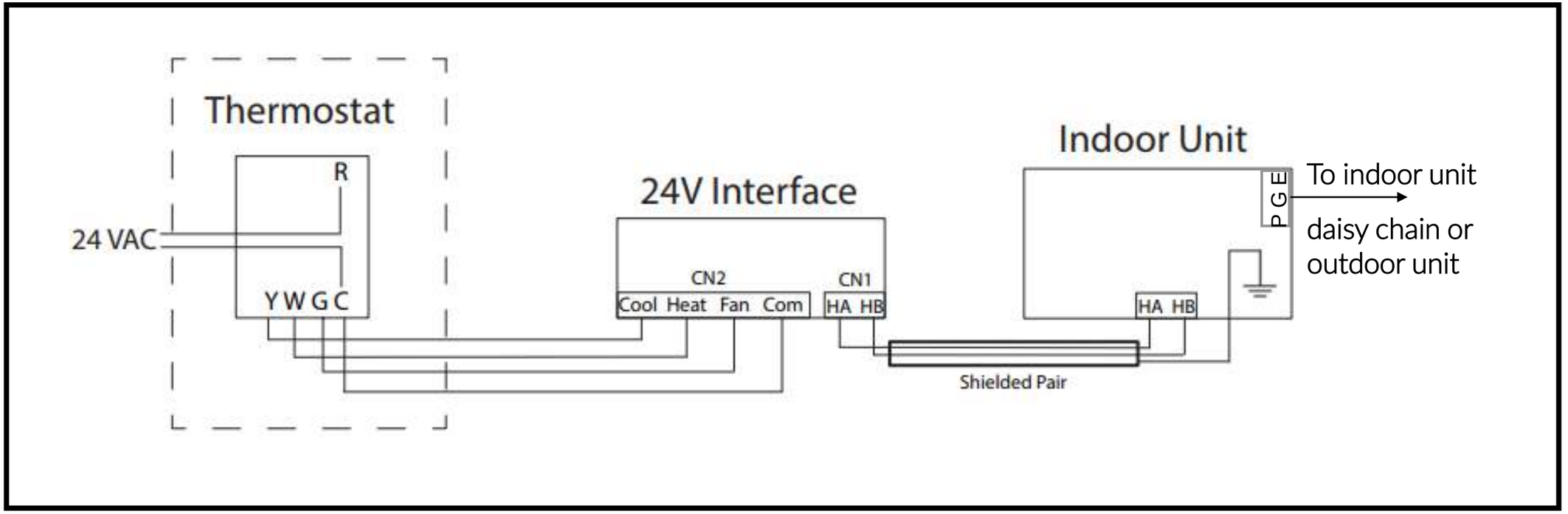
CB VRF Start Up Guide

20. Indoor units using 24-Volt Interface Accessory 40VM900008
    If no 24-Volt Interfaces were installed go to step 21.

Attention:
Do not use Heat Pump thermostats

Automatic addressing for indoor units with a 24-Volt interface:

Indoor units with a 24-Volt interface connected can be addressed two ways.
If control wire is connected as shown below, automatic addressing can be used.



24-Volt Interface Set Up

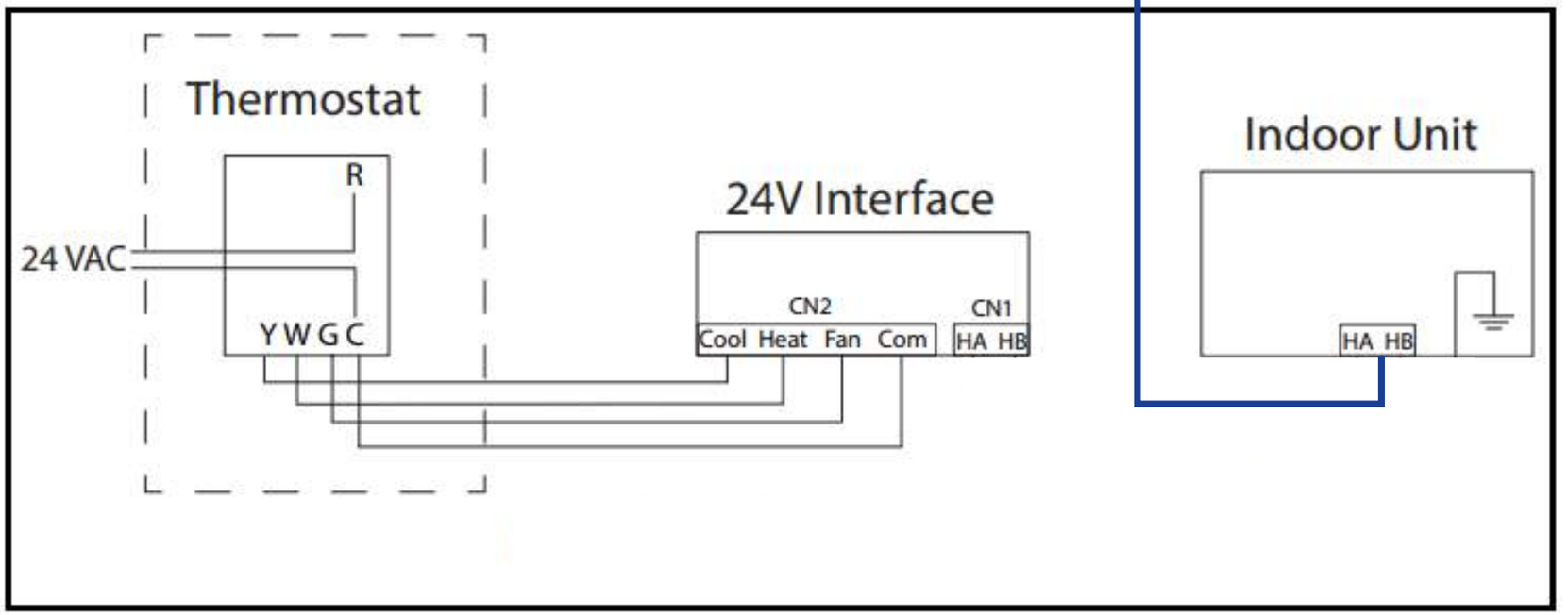
CB VRF Start Up Guide

20. Indoor units using 24-Volt Interface Accessory 40VM900008

Manually addressing indoor units with a 24-Volt interface:

If manual addressing is preferred, power OFF and disconnect the 24-Volt interface and connect a wired remote control to the indoor unit. Power ON and address the indoor unit manually using the addressing steps previously shown. Next power OFF and remove the wired remote control, reconnect the 24-Volt interface and power ON indoor unit and 24-Volt interface after set up is complete.

Do not leave the wired remote control connected to the 24-Volt interface or the indoor unit in combination with the 24-Volt interface.



24-Volt Interface Set Up

CB VRF Start Up Guide

20. Indoor units using 24-Volt Interface Accessory 40VM900008 (end)

Select fan speed by setting DIP switch SW1 as shown below.

SW1	Fan Speed Selection
ON / OFF 1 2	OFF,OFF selects low fan speed
ON / OFF 1 2	OFF,ON selects medium fan speed
ON / OFF 1 2	ON,OFF selects high fan speed
ON / OFF 1 2	ON,ON selects auto fan speed

SW1

Default = OFF,OFF

24-Volt Interface Set Up

CB VRF Start Up Guide

21. VRF systems with DLS/VRF Interface 40VM900010
    If no DLS/VRF Interfaces were installed go to step 22.

40VM900010

Compatible DLS Units:

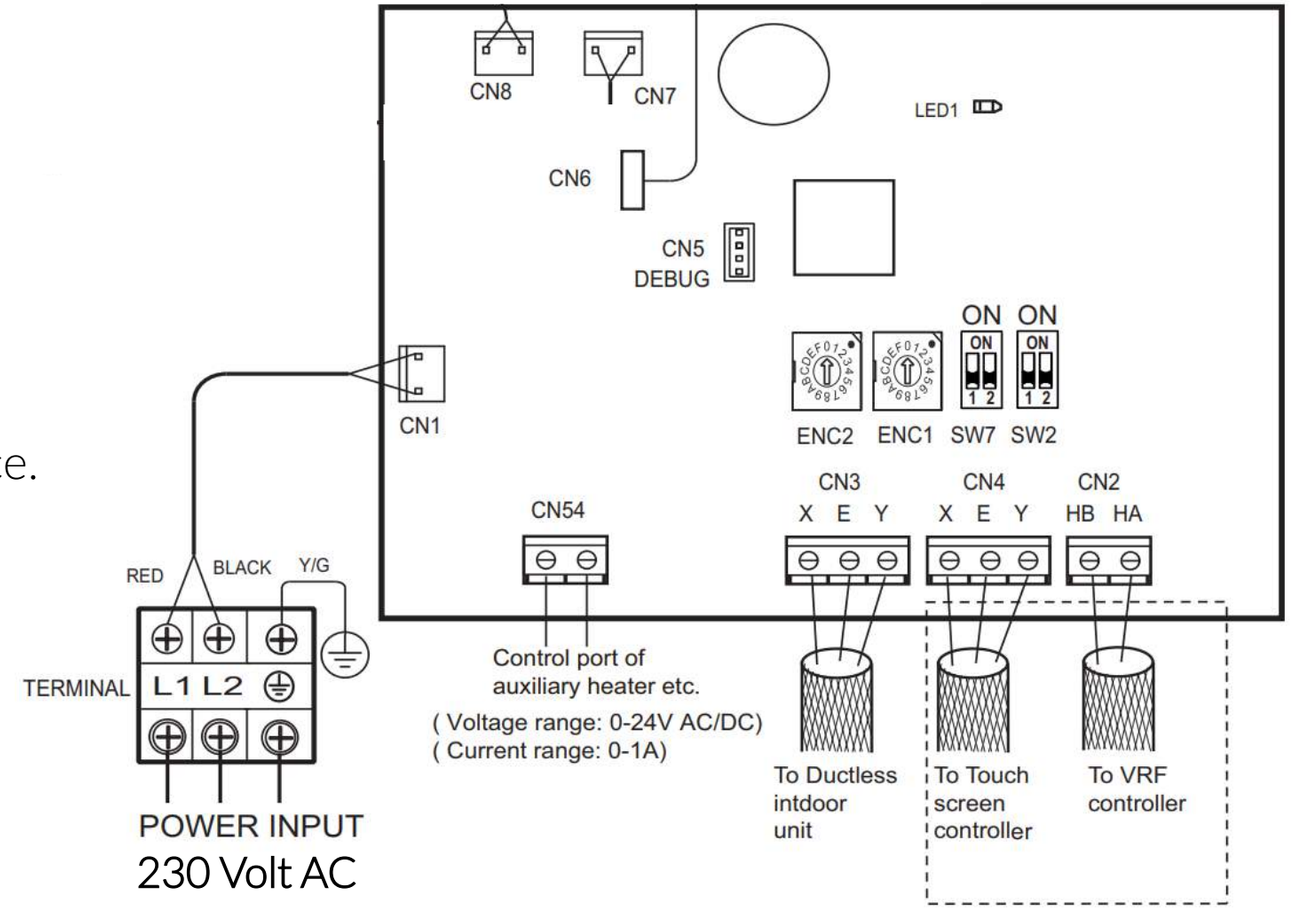
40MHHQ/C – High Wall

40MPHA/619PHA – High Wall

40MBDQ – Ducted Units

Wiring diagram for DLS VRF Interface.

Control wiring is 2-core
stranded shielded cable
18 or 16 AWG wire.



24-Volt Interface Set Up

CB VRF Start Up Guide

21. VRF systems with DLS/VRF Interface 40VM900010

40VM900010

Set indoor unit address for DLS system using Rotary switch ENC1 and DIP switch SW7

Be careful not to duplicate indoor unit address with other DLS/VRF Interfaces or indoor units on same VRF system.

Chart on next slide.

ENC1

Default = 0

SW7

Default = OFF,OFF

DLS VRF Interface Set Up

CB VRF Start Up Guide

IDU Address	ENC1	SW7	IDU Address	ENC1	SW7	IDU Address	ENC1	SW7	IDU Address	ENC1	SW7
default	0	OFF, OFF	16	0	OFF, ON	32	0	ON, OFF	48	0	ON, ON
1	1	OFF, OFF	17	1	OFF, ON	33	1	ON, OFF	49	1	ON, ON
2	2	OFF, OFF	18	2	OFF, ON	34	2	ON, OFF	50	2	ON, ON
3	3	OFF, OFF	19	3	OFF, ON	35	3	ON, OFF	51	3	ON, ON
4	4	OFF, OFF	20	4	OFF, ON	36	4	ON, OFF	52	4	ON, ON
5	5	OFF, OFF	21	5	OFF, ON	37	5	ON, OFF	53	5	ON, ON
6	6	OFF, OFF	22	6	OFF, ON	38	6	ON, OFF	54	6	ON, ON
7	7	OFF, OFF	23	7	OFF, ON	39	7	ON, OFF	55	7	ON, ON
8	8	OFF, OFF	24	8	OFF, ON	40	8	ON, OFF	56	8	ON, ON
9	9	OFF, OFF	25	9	OFF, ON	41	9	ON, OFF	57	9	ON, ON
10	A	OFF, OFF	26	A	OFF, ON	42	A	ON, OFF	58	A	ON, ON
11	B	OFF, OFF	27	B	OFF, ON	43	B	ON, OFF	59	B	ON, ON
12	C	OFF, OFF	28	C	OFF, ON	44	C	ON, OFF	60	C	ON, ON
13	D	OFF, OFF	29	D	OFF, ON	45	D	ON, OFF	61	D	ON, ON
14	E	OFF, OFF	30	E	OFF, ON	46	E	ON, OFF	62	E	ON, ON
15	F	OFF, OFF	31	F	OFF, ON	47	F	ON, OFF	63	F	ON, ON

Ductless Indoor Unit Address Settings for DLS/VRF Interface

DLS VRF Interface Set Up

CB VRF Start Up Guide

21. VRF systems with DLS/VRF Interface 40VM900010

40VM900010

To change from the default temperature unit of Fahrenheit to Celsius

Change DIP switch SW2-1 to ON

SW2

Default = OFF,OFF

SW2	Temperature unit
ON OFF 1 2	Temperature: Fahrenheit (default)
ON OFF 1 2	Temperature: Celsius

DLS VRF Interface Set Up

CB VRF Start Up Guide

21. VRF systems with DLS/VRF Interface 40VM900010 (end)

If Interface is connected to a Touchscreen control, the Network Address must be set.

Each Interface & Outdoor System must have a different Network Address number.

Up to 8 of each can be connected to one Comm. Port.

Do not duplicate.

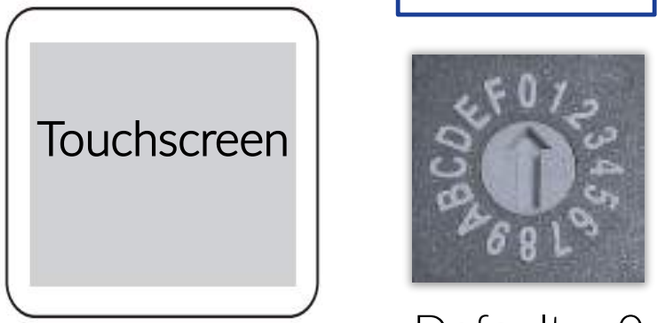
0 = 1 system 1 = 2 systems

2 = 3 systems 3 = 4 systems

4 = 5 systems 5 = 6 systems

6 = 7 systems 7 = 8 systems

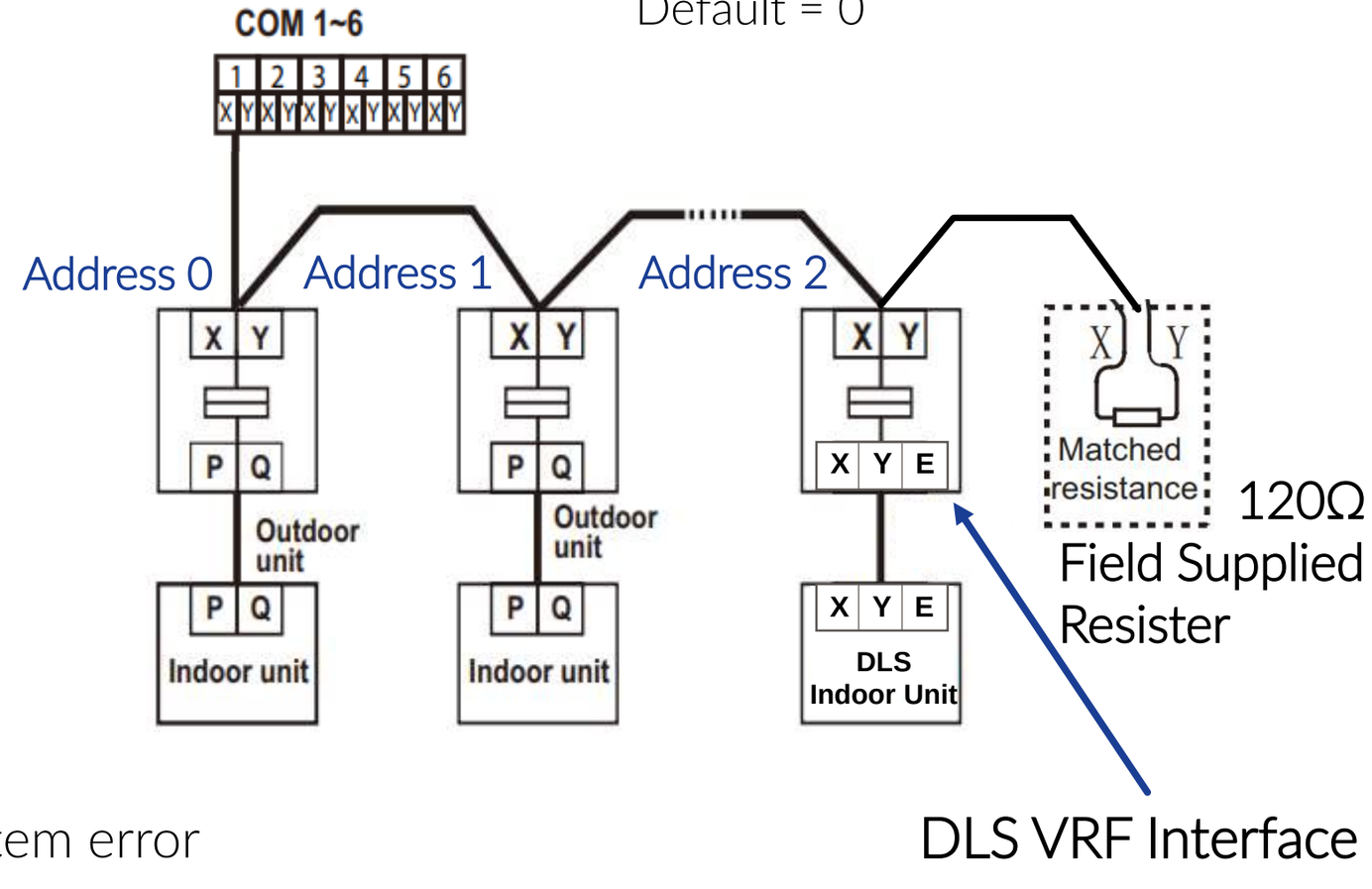
≥8 = Invalid address, lead to system error



ENC2

Default = 0

40VM900010



Power Recycle & Start Up

CB VRF Start Up Guide

22. Power OFF all outdoor units, MDC boxes and indoor units. Wait 5 minutes and power ON MDC box's first, indoor units next and then outdoor units last.
23. Wait 20 minutes or so (depends on size of system) and make sure no errors are present on the system. If all remote controllers are turned OFF, 3PH units will display number of connected indoor units on Spot Check Board. 1PH units will display number of connected indoor units on main PCB in outdoor unit.
24. If there are any errors present after initialization, you will need to find the cause and correct before continuing.
25. STT users connect laptop, verify all equipment can be seen and start recording data. Record a minimum of 2 hrs. for each system, 4 hrs. recommend.
26. For 1PH Heat Pump systems there is no test run available. We do recommend you operate each indoor unit independently first from the indoor unit's remote controller. Operate each in Heating and Cooling mode if outdoor conditions permit. Once each is confirmed, operate all indoor units to verify the entire systems operation.

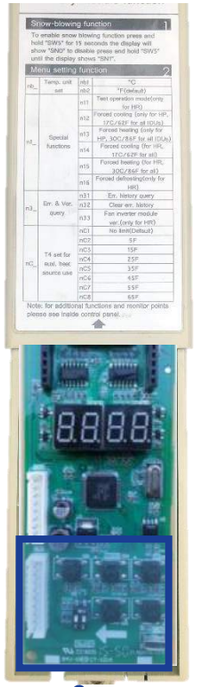
Power Recycle & Start Up

CB VRF Start Up Guide

27. For 3PH Heat Pump systems, we recommend you initiate the Cooling test _n14 and Heating tests _n15 from the Spot Check Board.

SYMBOL	FUNCTION	ITEM	DESCRIPTION
_n1_	Special function for debugging	_n12	Forced cooling (62.6°F of IDU)
		_n13	Forced heating (86°F of IDU)
		_n14	Cooling test
		_n15	Heating Test

Spot Check Board

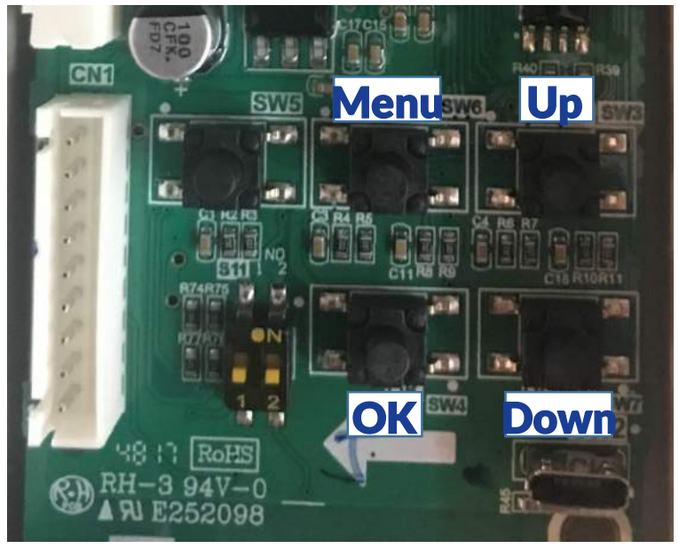


Hold the Menu button for 5 seconds, press up or down to select first number then press OK. Press up or down to select next number and press Ok once more to start the item selected.

28. For Heat Recovery systems only, on the Spot Check Board press the menu button (SW6) for 5 seconds.

n11 is displayed first, press OK 3 times to start test operation mode.

Item	Description
n11	Test operation mode
n14	Forced cooling
n15	Forced heating
n16	Forced defrosting



Power Recycle & Start Up

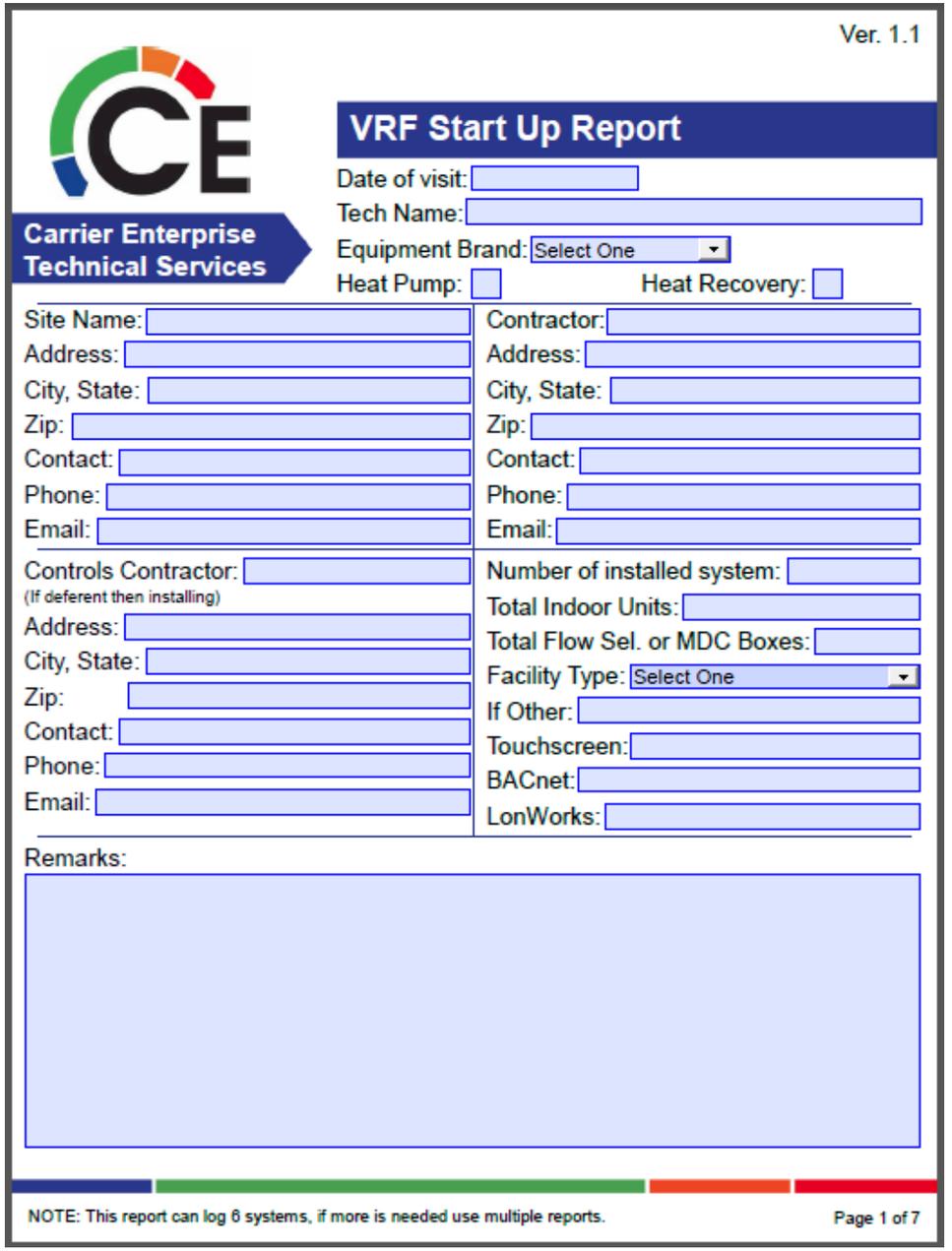
CB VRF Start Up Guide

29. Cycle all systems in both heating and cooling as outdoor temperature permits. If Heat Recovery, observe and record different mixes of indoor units in “heat” and “cool” modes.

If system has a Touchscreen, BACnet or LonWorks centralized controller, proceed to next module of this training series.

Don’t forget to fill out a Start Up Report!

Downloadable at: www.carrierenterprise.com/ne/technical-support



Ver. 1.1

VRF Start Up Report

Carrier Enterprise Technical Services

Date of visit:
Tech Name:
Equipment Brand: Select One
Heat Pump: Heat Recovery:

Site Name:	Contractor:
Address:	Address:
City, State:	City, State:
Zip:	Zip:
Contact:	Contact:
Phone:	Phone:
Email:	Email:
Controls Contractor: (If deferent then installing)	Number of installed system:
Address:	Total Indoor Units:
City, State:	Total Flow Sel. or MDC Boxes:
Zip:	Facility Type: Select One
Contact:	If Other:
Phone:	Touchscreen:
Email:	BACnet:
	LonWorks:

Remarks:

NOTE: This report can log 6 systems, if more is needed use multiple reports.

Page 1 of 7

Section – 3
Carrier Bryant VRF Controls

Models covered in Section 3 of this guide:

40VM900003 – Remote Controller

40VM900001 – Wireless Remote Controller

Remote Controller Set Up

Model 40VM900003 – Buttons and Basic Operation

1 – MODE Selects the running mode.
2 – TEMP UP Increases set temperature.
3 – ON/OFF Button Powers the IDU on/off
4 – LED (green) Indicates when the IDU is ON and blinks when there is a fault.
5 – Left Selects options to the left.
6 – MENU/OK Enters the menu/sub menu & Confirms selection.
7 – Right Selects options to the right.
8 – Fan Selects fan running speed.
9 – BACK Returns to the previous level.
10 – TEMP DOWN Reduces the set temperature.

Basic Operation:

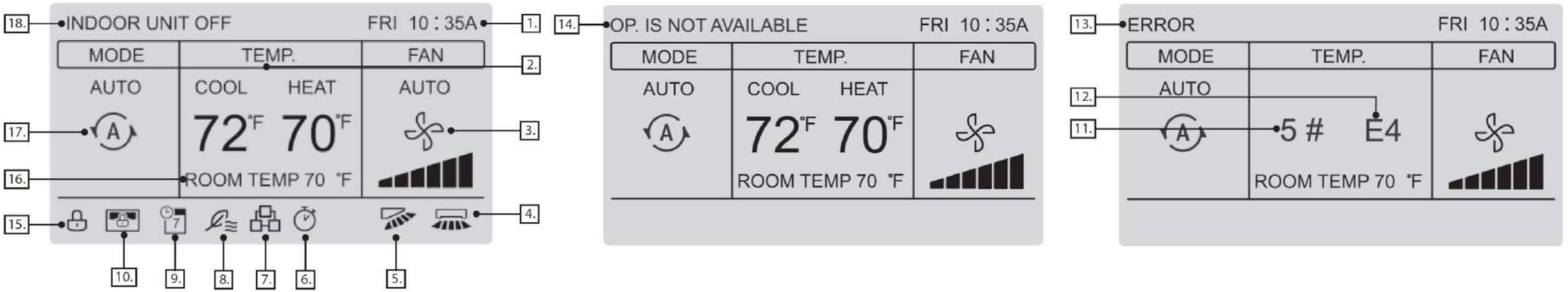
1. Turn ON the remote control by pressing the ON/OFF button.
2. Select the MODE be pressing the MODE button.
   - AUTO, COOL, DRY, HEAT, FAN are selectable modes of operation.
   - AUTO is not available on Heat Pump Systems.
   - FAN speed cannot be adjusted in DRY mode.
3. Select FAN speed.
   - AUTO, LOW, MED, HIGH are selectable fan speeds.
4. If AUTO, COOL, DRY, HEAT mode is selected, set desired temperature.
5. In AUTO mode, press LEFT or RIGHT buttons within 10 seconds to switch between cooling & heating set points.

More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Remote Controller Set Up

Model 40VM900003 – Display Icons

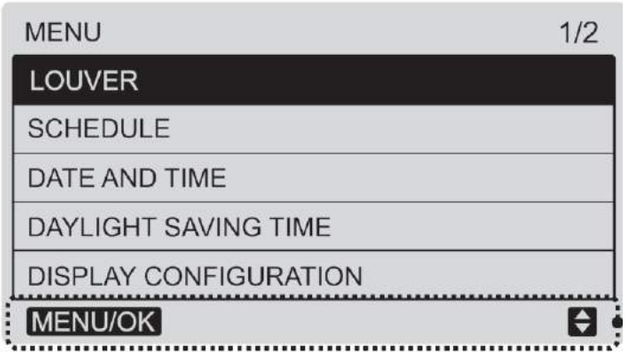
Display Items:



NUMBER	DESCRIPTION
1. Time display	Displays the time.
2. Set temperature	Displays the set temperature for the unit.
3. Fan speed display	Displays the fan speed set by the wired controller.
4. Horizontal swing	Displays swing status when the IDU supports horizontal swing.
5. Vertical swing	Displays swing status when the IDU supports vertical swing.
6. OVERRIDE	Turns on when OVERRIDE is enabled on the wired controller.
7. Group control indicator	Turns on when the wired controller controls multiple IDUs (max 16 IDUs).
8. Outside air unit symbol	Turns on when the wired controller is being used on a VRF outside air unit.
9. Schedule	Turns on when the weekly schedule is available on the wired controller.
10. Central controller/Upper computer locking indicator	Turns on when the central controller/upper computer locks the IDU function and the wired controller cannot use the corresponding functions of the IDU.
11. Faulty IDU/ODU address	Displays the address of the faulty unit if an error occurs on the IDU or ODU.
12. Error code	Displays the error code if the system is faulty.
13. Error indicator	Displays the “ERROR” message if the system is faulty.
14. Invalid operation prompt	Flashes for two seconds if an operation is invalid.
15. Function locking indicator	Turns on when the wired controller locks the on/off function, mode, schedule or temperature setting.
16. Room temperature display	Displays the current indoor temperature.
17. Mode display	Displays the running mode set by the wired controller.
18. IDU off	Displayed when the IDU is turned off.

Remote Controller Set Up

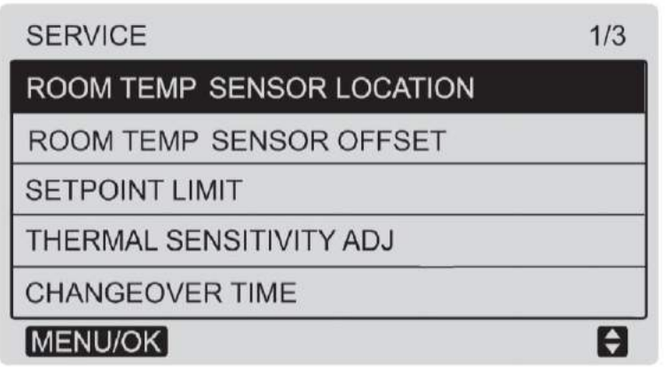
Model 40VM900003 – Menu Options



Menu Options:

1. Press the MENU/OK button to enter the menu.
2. Press TEMP UP and DOWN to select desired menu item.
   - If IDU does not have an integral louver, the louver function will not be available.
3. Set DATE & TIME.
4. Set DAYLIGHT SAVINGS TIME.
5. Set DISPLAY CONFIGURATION. Select Standard or Simple.
   - When the indoor temperature display is set, the current room temp will be displayed below the set point temp(s) on the main display.

Service & Start Up Settings:



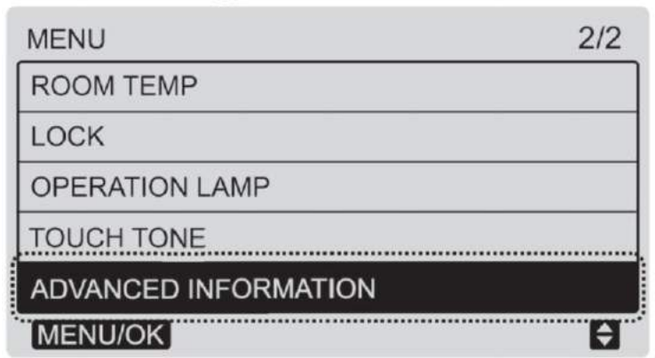
1. Press and hold the BACK button and the FAN button for 5 seconds at the same time to enter SERVICE Settings.
2. From this menu many settings can be preformed. Most commonly used are; ROOM TEMPERATURE SENSOR LOCATION, SETPOINT LIMIT, DRY CONTACT & IDU ADDRESSING
3. IDU Addressing – Press TEMP DOWN button until IDU Addressing is highlighted and press MENU/OK button to enter.
4. Press TEMP UP or TEMP DOWN to select desired IDU address and press MENU/OK button to lock in.
5. See last page of this document for all SERVICE items.

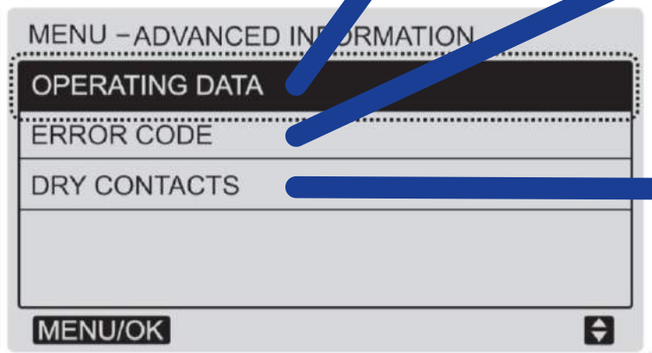
Remote Controller Set Up

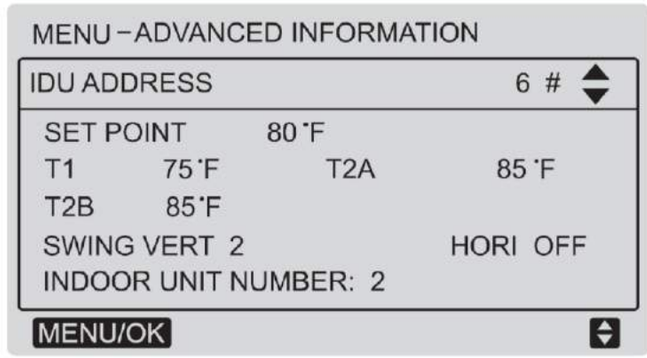
Model 40VM900003 – Menu Options

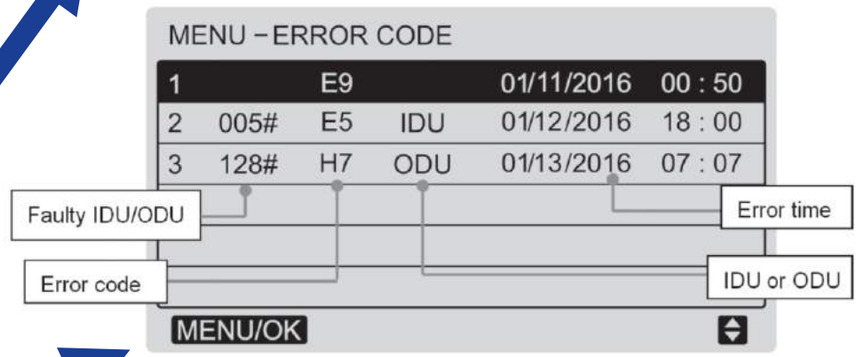
Advanced Information:

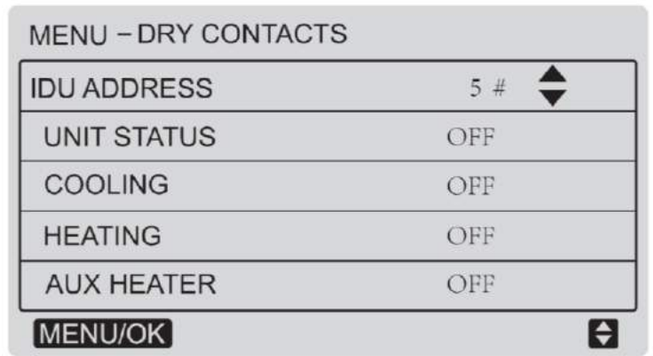
1. On the second page of the MENU options, select ADVANCED INFORMATION.
2. If OPERATIONAL DATA is selected, sensor and other operational detail can been seen.
   - If more than one IDU is connected to the same Remote Controller Pressing TEMP UP or TEMP DOWN will cycle through the other IDU's.
3. If ERROR CODE is selected, the last 10 groups of fault codes will be displayed.
4. If DRY CONTACTS is selected, the status of each can be seen.











Remote Controller Set Up

Model 40VM900003 – Service Items

Service Items:

NO.	SERVICE MENU		DESCRIPTION	SET PARAMETER
1	ROOM TEMPERATURE SENSOR LOCATION		Select whether to use the IDU room temperature sensor of the wired controller.	Wired remote control (default) Indoor unit
2	ROOM TEMPERATURE SENSOR OFFSET		The temperature compensation value for wired controller T1.	-5 °F, -4 °F, -3 °F, -2 °F, -1 °F, 0 °F (default), 1 °F, 2 °F, 3 °F, 4 °F, 5 °F or -5 °C, -4 °C, -3 °C, -2 °C, -1 °C, 0 °C (default), 1 °C, 2 °C, 3 °C, 4 °C, 5 °C
3	SETPOINT LIMIT	MAX HEATING SETPOINT SETTING	Set the upper limit of the temperature range for heating.	86 F (default) to 62 F 30 C (default) to 17 C
		MIN. COOLING SETPOINT SETTING	Set the lower limit of the temperature range for cooling.	50 F (default) to 86 F 10 C (default) to 30 C
4	THERMAL SENSITIVITY ADJUSTMENT		Select a capacity interval.	THERMAL ON (1 F) (default), THERMAL ON (2 F) or THERMAL ON (1 C) (default), THERMAL ON (1 C)
5	CHANGE OVER TIME		Automatic mode change over time.	15 min. (default), 30 min., 60 min., 90 min.
6	ANTI-COLD BLOW		Set the temperature when the fan is turned off to prevent cold winds	68 F (default), 50 F, 59 F, 75 F, 82 F or 20 C (default), 10 C, 15 C, 24 C, 28 C
7	TERMINAL FAN CONFIGURATION		Fan off after a delay of	4 min. (default), 8 min., 12 min., 16 min.
8	THERMO-OFF FAN SPEED SETTING	COOLING	Set the fan step for cooling thermo off.	OFF, LOW, MIDDLE, HIGH, MAINTAIN (default)
		HEATING	Set the fan step for heating thermo off.	OFF (default), LOW, MIDDLE, HIGH, MAINTAIN
9	STATIC PRESSURE (NOT USED FOR ALL INDOOR UNITS)		Set the IDU static pressure of the DC fan.	0: 0 In. wg (default) 1: 0.04 In. wg 2: 0.08 In. wg 3: 0.12 In. wg 4: 0.16 In. wg 5: 0.20 In. wg 6: 0.24 In. wg 7. 0.28 In. wg 8: 0.32 In. wg 9: 0.36 In. wg 10: 0.40 In. wg 11: 0.44 In. wg 12: 0.48 In. wg 13: 0.52 In. wg 14: 0.56 In. wg 15: 0.60 In. wg 16: 0.64 In. wg 17: 0.68 In. wg 18: 0.72 In. wg 19: 0.76 In. wg 20: 0.80 In. wg 21: 0.84 In. wg 22: 0.88 In. wg 23: 0.92 In. wg 24: 0.96 In. wg 25: 1.0 In. wg

Remote Controller Set Up

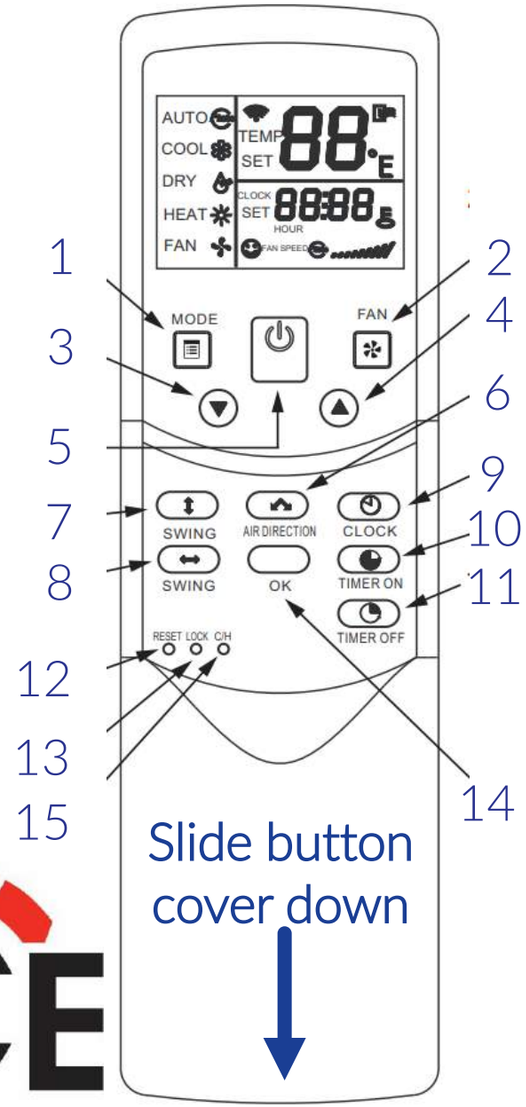
Model 40VM900003 – Service Items

Service Items (end):

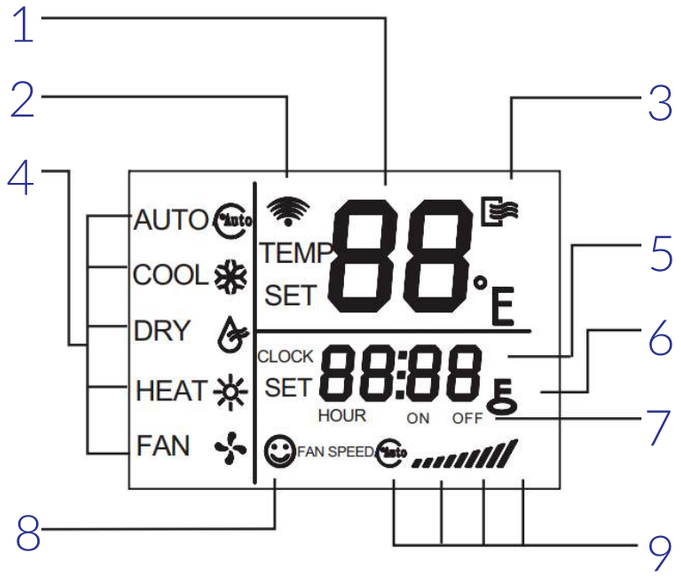
10	OCCUPANCY SENSOR	OCCUPANCY ON/OFF	Set occupancy delay function to valid or invalid	OFF (default), ON
		OCCUPANCY DELAY	Set the time for delayed power-off of the unattended IDU (valid only when the IDU is connected to an infrared sensing controller).	0 min (default-THERMAL OFF), 15 min., 30 min., 60 min. (SETBACK DELAY)
		OCCUPANCY SET TEMP OFFSET	Setback temperature setpoint amount after occupancy delay elapses.	0 °F, 2 °F, 4 °F (default), 6 °F, 8 °F or 0 °C, 1 °C, 2 °C (default), 3 °C, 4 °C
11	DRY CONTACT	DRY CONTACT STATUS	Whether the IDU is connected to a third-party heat source.	DISABLE (default), ENABLE
		DRY CONTACT CONFIGURATION	Set the start and end condition for the third-party heat source and the delayed end time of dry contact.	Starting condition, when the room temperature is lower than the set temperature: 1 °F (default), 2 °F, 3 °F, 4 °F, 5 °F or 1 °C (default), 1 °C, 2 °C, 2 °C, 3 °C
				Delayed closing time of dry contact: 15 min. (default), 30 min., 60 min.
		INDOOR FAN STATUS	Forcibly turn on the fan or not when the third-party heat source starts.	ON (default), OFF
12	IDU ADDRESSING		Set the IDU address	0#-63#

Remote Controller Set Up

Model 40VM900001 – Buttons and Display Icons



1 – MODE Setting
2 – FAN SPEED
3 – ADJUST DOWN
4 – ADJUST UP
5 – ON/OFF
6 – AIR DIRECTION
7 – AIR VERTICAL SWING
8 – AIR HORIZONTAL SWING
9 – CLOCK SETTING
10 – TIMER ON
11 – TIMER OFF
12 – RESET
13 – LOCK
14 – OK (CONFIRM)
15 – COOL/HEAT



1 – TEMP
2 – TRANSMITTING INDICATOR
3 – ON/OFF
4 – RUNNING MODE
5 – TIME
6 – LOCK
7 – TIMER ON/OFF
8 – RESERVED
9 – FAN SPEED

More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Remote Controller Set Up

Model 40VM900001 – Basic Operation & Set Up

FIRST CODE (X)	FUNCTION	SECOND CODE (Y)	
		0	1
0	Heat recovery/ Heat pump	Heat recovery (with AUTO mode) (default)	Heat pump (Without AUTO mode)
1	Celsius/ Fahrenheit display	Celsius	Fahrenheit (default)

Initial Parameter Settings:

- The parameter settings should only be adjusted when it is necessary to change from the default functions.
- To change the default functions of the controller, adjust the parameters as shown in the table above:

Steps:

1. The wireless controller parameters include two codes “X” and “Y.” The first code “X” represents function type, the second code “Y” defines which function is being selected.
2. Setting Parameters:
    a. On the wireless controller, simultaneously press and hold the MODE (2) and FAN (3) buttons for 5 seconds to enter the first parameter setting state (heat recovery/heat pump).
    b. The value of this first code “X” is “0”; press the UP/DOWN (4/5) buttons to adjust the second code value.
    c. After setting the first parameter value, press the OK (1) button to switch to the second parameter (Centigrade/Fahrenheit).
    d. The value of the first code “X” is “1”; press the UP/DOWN (4/5) buttons to adjust the second code value.

Remote Controller Set Up

Model 40VM900001 – Basic Operation & Set Up

Basic Operation:

NOTE: The effective transmitting distance of the controller is 26 to 36 ft. Aim the signal transmitter portion of the controller at the indoor unit receiver.

1. Turn ON the remote control by pressing the ON/OFF button (1).
2. Select the MODE be pressing the MODE button (2).
   - AUTO, COOL, DRY, HEAT, FAN are selectable modes of operation.
   - AUTO is not available on Heat Pump Systems.
   - FAN speed cannot be adjusted in DRY mode.
3. Select FAN speed (3).
   - AUTO, LOW, MED, HIGH are selectable fan speeds.
4. If AUTO, COOL, DRY, HEAT mode is selected, set desired temperature (4/5).
5. In AUTO mode, press LEFT or RIGHT buttons within 10 seconds to switch between cooling & heating set points.

Setting the Clock:

1. To set the current time, press and hold the CLOCK button for 5 seconds until the hour icon flashes. Use the UP/DOWN buttons to adjust the hour.
2. Press the CLOCK button again, the minute icon will start flashing. Use the UP/DOWN buttons to adjust the minute, then press OK to confirm settings.

Remote Controller Set Up

Model 40VM900001 (end) – Basic Operation & Set Up

Setting the Unit for AUTO Operation (Heat Recovery Only):

1. Press the MODE button to change to AUTO.
2. The temperature cannot be adjusted using the remote control while in AUTO mode.
   The default setting for indoor units is 70F for heating and 75F for cooling.
3. Press the ON/OFF button. The running indicator light on the indoor unit is on continuously.
   The unit will work in AUTO mode. Press the ON/OFF button again to stop the operation.

Setting COOL/HEAT/DRY (Manual) Operation:

1. Press the MODE button to select COOL, HEAT, or DRY.
2. Adjust the temperature with the up and down arrow buttons. The typical range is 62F to 86F.

Setting FAN Operation:

NOTE: In FAN mode the temperature is not adjustable.

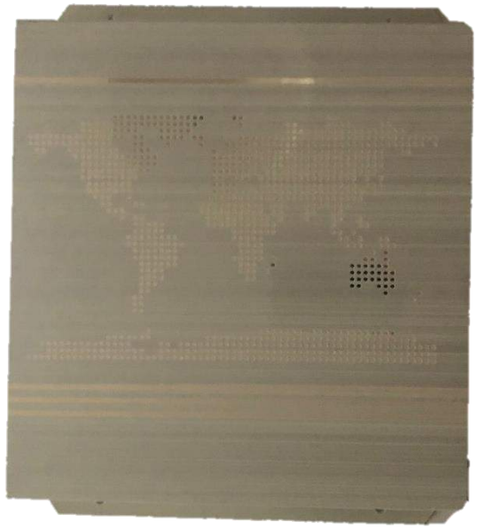
1. Press the FAN SPEED button to select AUTO, LOW, MED, or HIGH.
2. Press ON/OFF. The running indicator light on the indoor unit is on continuously.
   The unit will work in the selected mode. Press ON/OFF again to stop the operation.

Section – 4

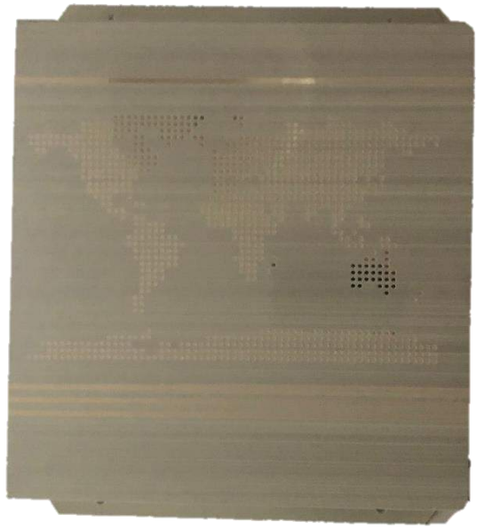
Carrier Bryant VRF Central Controls

Models covered in Section 4 of this guide:

Touchscreen – 40VM900006



BACnet – 40VM900052



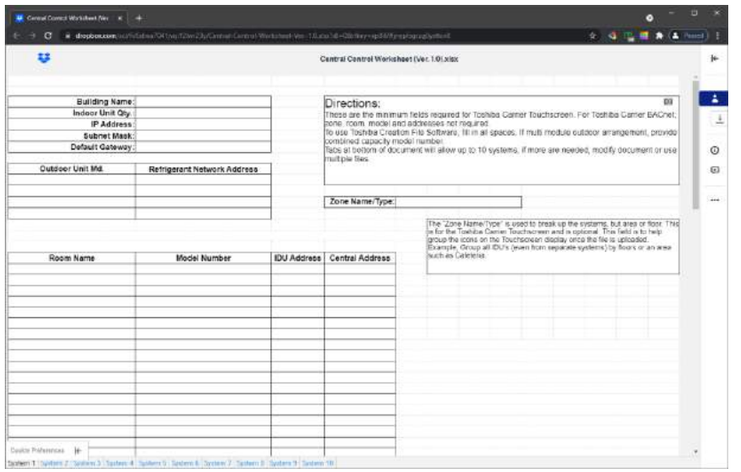
LonWorks – 40VM900053

Carrier Bryant VRF Central Controls

Centralized Control Start Up Overview

- If you are installing a Touchscreen, BACnet or LonWorks centralized control, the equipment locations and indoor unit addresses will be required for programing.
- Whether you use Auto Addressing or Manually address the indoor units, you will need a list of all this information when you are ready to program the control.
- If you have multiple VRF systems, also record the Network address that was set in each of the Header outdoor units.
- You can use a pad and pen, Excel document or just write the info down and draw a map.
- Use the way that is easiest for you to keep the information organized and ready when you need it.
- We have made an Excel template to help keep it organized. Look on our Tech Support page to download.

Room or Area	Model Number	Network Address	IDU Address
Room 101	40VMF015---3	1	1
Conference	40VMI024---3	1	2
Storage	40VML009---3	2	3
Office 202	40VMW030---3	2	4



Central Control Worksheet
www.carrierenterprise.com/ne/technical-support

Carrier Bryant VRF Central Controls

Centralized Control Start Up Overview

This is a general overview for start up of all centralized controls for Carrier Bryant VRF.

1. Once the VRF system(s) has been fully started and tested by local control or by STT (laptop).
   Power down all outdoor units.
2. If not already done during equipment Start Up, set Network address on Header outdoor units.
3. Connect control wire from X, Y centralized control daisy chain in Header outdoor units to Touchscreen, BACnet or LonWorks.
4. Power Up all centralized control devices.
5. Power Up all outdoor units. Not necessary to power cycle indoor units or MDC box's.
6. Make a list of indoor unit addresses and their corresponding location. This is needed for the next step.
7. Program the BACnet, Touchscreen or LonWorks device as required for the application.
8. If Touchscreen was installed, we recommend backing up final version of programming on a USB memory stick.

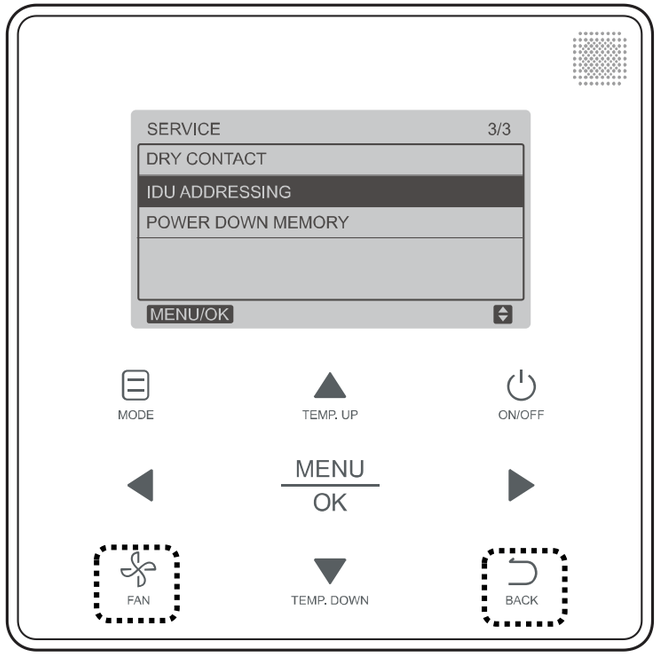
Setting Indoor Unit Address

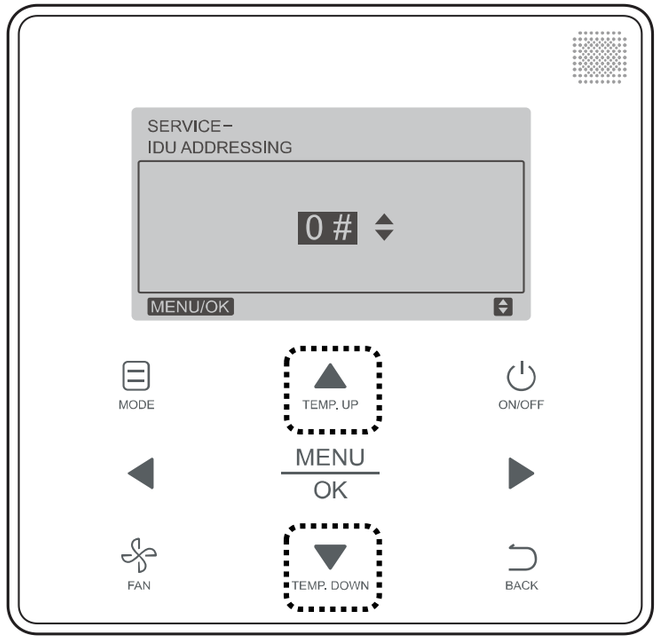
Centralized Control Start Up Overview

How to address manually using the Wired Controller Md. 40VM900003

Addresses 0~63 can be used.

1. Press FAN and BACK simultaneously for 5 seconds to enter the interface for parameter settings.
2. Press TEMP. UP or TEMP. DOWN to move the cursor down and choose IDU ADDRESSING, then MENU/OK to enter this setting. 0~63 can be used.
3. Press TEMP. UP or TEMP. DOWN to choose the address No. you want to set, then MENU/OK to send this address to the IDU.
4. Press BACK twice or wait 30 seconds to automatically exit the parameter settings menu.





Setting Indoor Unit Address

Centralized Control Start Up Overview

How to address manually using the Wireless Controller 40VM900002

Addresses 0~63 can be used.

1. Press 

and 

together for 3sec into the right interface. It displays FE# 00 if there is no address for this indoor unit, otherwise displays current address of the indoor unit.

2. Click 

or 

to change 00 to address number you want to set. Then press OK to confirm and exit the setting interface.

Setting Indoor Unit Address

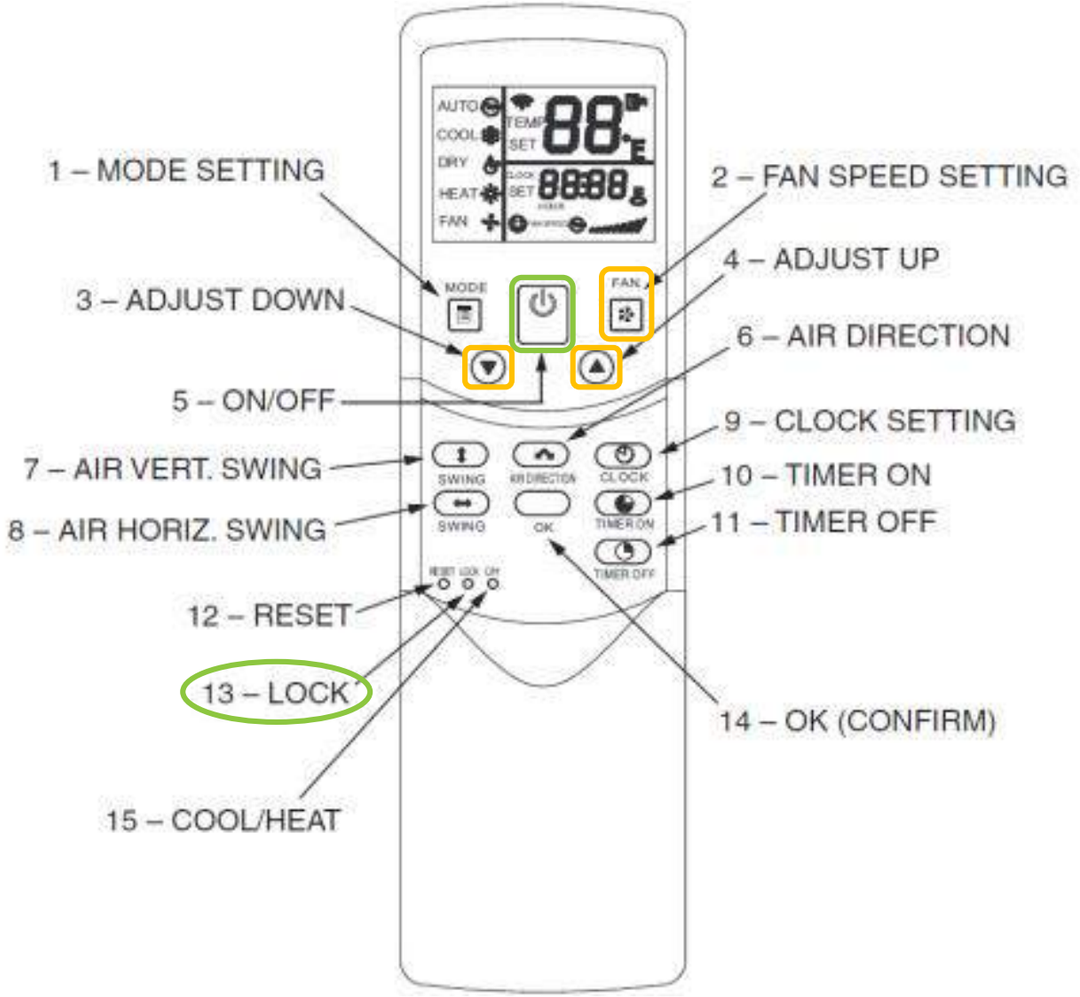
Centralized Control Start Up Overview

How to address manually using the Wireless Controller 40VM900001

Addresses 0~63 can be used.

Make sure wireless controller is pointed at receiver of IDU while setting.

1. Use tool to press and hold the “LOCK” button for more than 10 seconds and then press ⏻ button to activate.
2. Press ▲ or ▼ to select an address you want and then press FAN to send the setting.



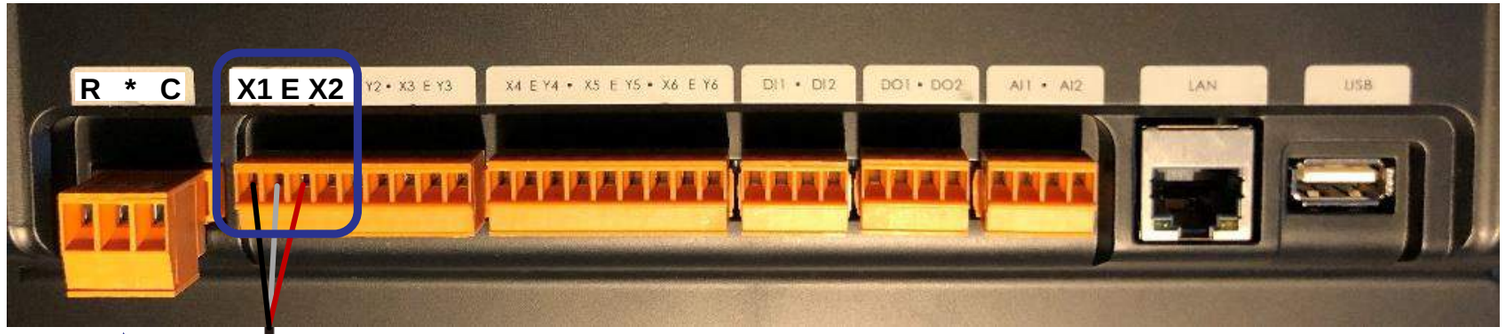
Touchscreen Start Up

Model 40VM900006

40VM900006

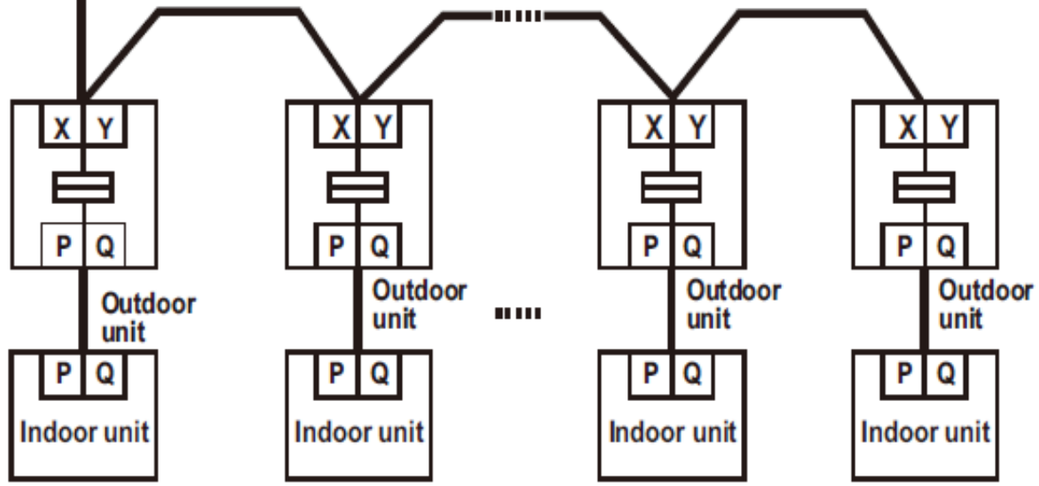
1. Once the VRF systems has been fully started and tested by local control or by STT (laptop). Power down all outdoor units.
2. Make sure wires are connected as shown, do not plug in any LAN cable yet.
3. Make sure to land shields on E.

Bottom back of Touchscreen Controller



24VAC

A single 40VA transformer is needed for each touchscreen. If more 24 volt devices are sharing same power supply a larger transformer will be needed, size accordingly.



Max. 8 Refrigeration Systems and Max. 64 indoor units per X, Y group

Touchscreen Start Up

Model 40VM900006

40VM900006

4. Set Network address on each Header outdoor unit, 0-7 can be used, 0 is default, do not duplicate.
5. Power Up touchscreen and outdoor units. Not necessary to power cycle indoor units or MDC box's.
6. Get your list together of IDU address and their corresponding location. This will be needed for programming the touchscreen.

Power Up Screen

Choose Brand (can be changed later)

Login Screen

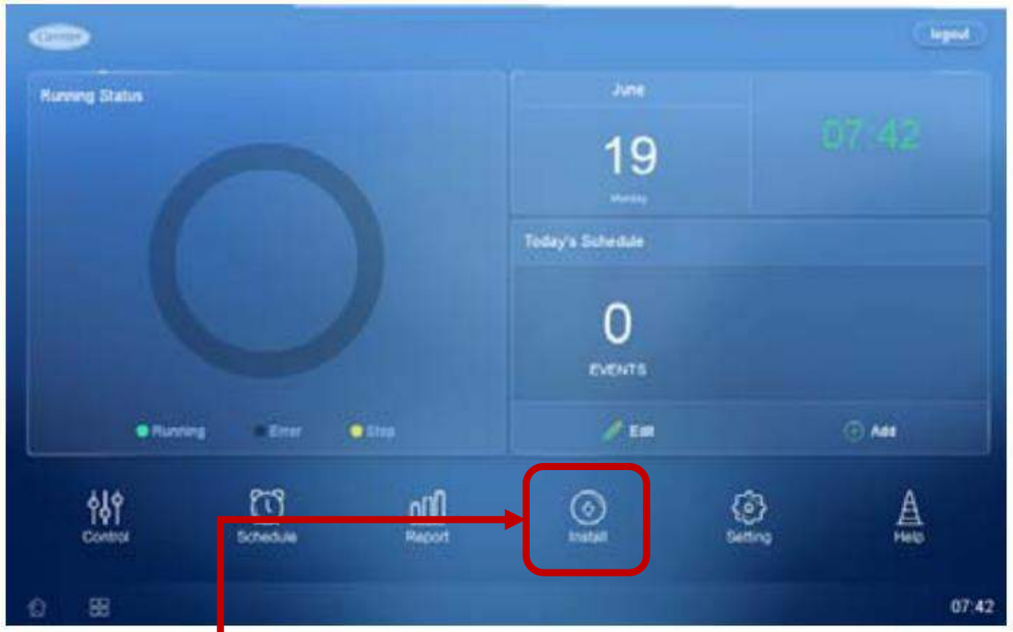
Login using default user name and password.

User Name: superAdmin
Password: 66668888

Touchscreen Start Up

Model 40VM900006

40VM900006



Carrier Home Screen

7. We recommend to start the programming process you use “Auto Search” to find what units are connected to the device. Devices connected to the controller are automatically searched for and registered.
8. In the main menu, click the “Install” menu icon.
9. Click the “Auto Search” button.

Touchscreen Start Up

Model 40VM900006

40VM900006

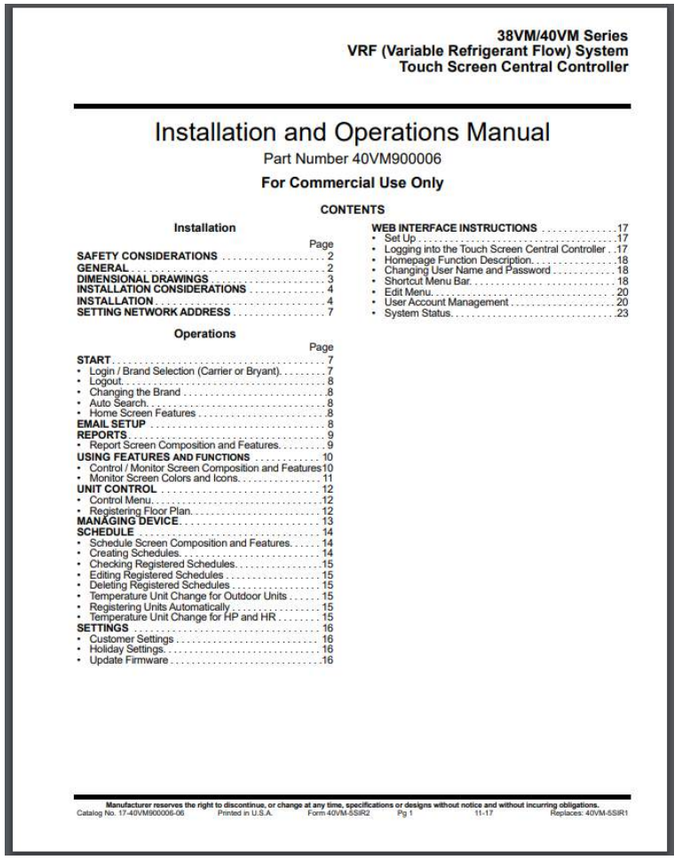
10. Once “Auto Search” is complete, all your units and their address should be able to be seen on the touchscreen’s display. If you are missing units go back and check the local controller’s address first for any missing units. Click Confirm to accept the units displayed.

11. We recommend navigating around the Touchscreen display and test the control/operation of the VRF system. Control through the Touchscreen should be verified.

Touchscreen Start Up

Model 40VM900006 (end)

For additional programming features of the touchscreen controller, consult the Installation and Operation Manual that comes with the device, or if lost or misplaced, download them from the resources mentioned in the first few pages of this guide.



38VM/40VM Series
VRF (Variable Refrigerant Flow) System
Touch Screen Central Controller

Installation and Operations Manual

Part Number 40VM900006

For Commercial Use Only

CONTENTS

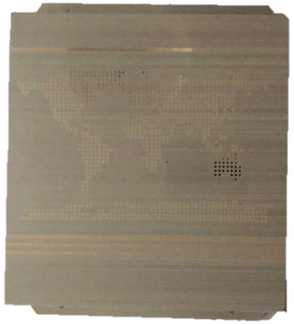
Installation

Operations

Catalog No. 17-40VM900006-06 Printed in U.S.A. Form 40VM-5SIR2 Pg 1 11-17 Replaces: 40VM-5SIR1

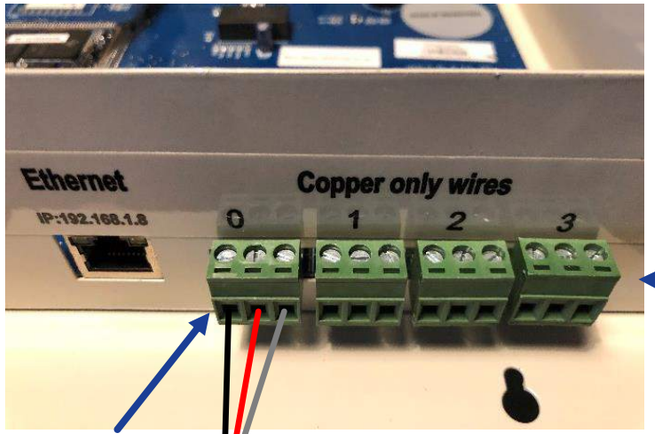
BACnet Start Up

Model 40VM900052



40VM900052

1. Once the VRF systems has been fully started and tested by local control or by STT (laptop). Power down all outdoor units.
2. Make sure wires are connected as shown, do not plug in any LAN cable yet.
3. Make sure to land shields on E.

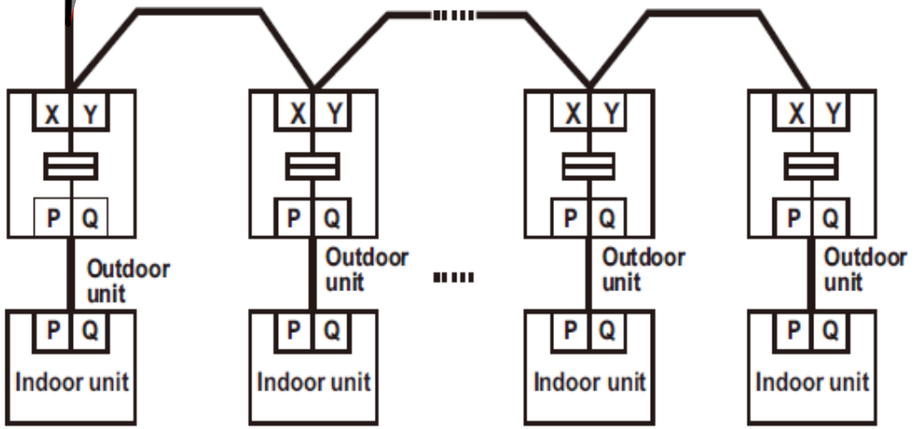


Bottom of BACnet

Bus Terminals 0, 1, 2, 3

Each Bus can support 8 VRF systems & 64 IDU's max.

X-Y-E



BACnet Start Up

Model 40VM900052

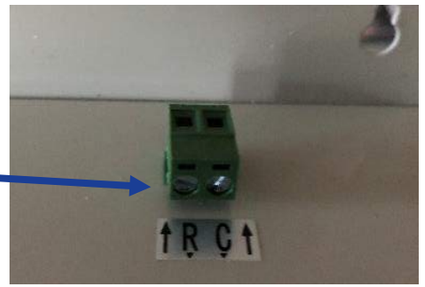
Attention:
Window based PC only
See additional notes at bottom

4. Connect 24 VAC power supply.

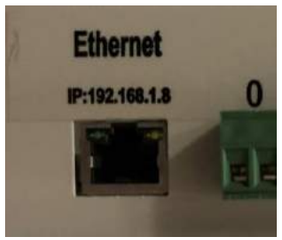
   A single 40VA transformer is needed for each BACnet.
   If more 24 volt devices are sharing same power supply a larger transformer will be needed, size accordingly.

Attention:
24VAC 1A. Required

Top of BACnet



5. Set Network address on each Header outdoor unit, 0~7 can be used, 0 is default, do not duplicate.
6. Connect laptop to Ethernet port with LAN cable.
7. Change your laptop's IP address to: 192.168.1.7
   Detailed instructions on how to change your IP are at the end of this module.



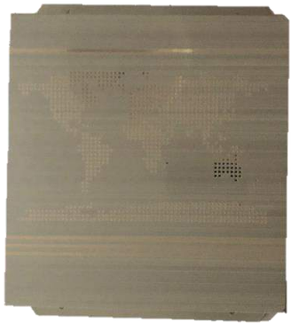
Bottom of BACnet

If laptop does not have a network port, a USB to Ethernet adapter can be used.

NOTES:
1. The computer operating system currently supports Windows 7 (32-bit, 64-bit) and later.
2. The web browser currently supports IE9 and later, Google Chrome18.0 and later, and Firefox1.5 and later.
3. The computer screen resolution requirement is no less than 1280 * 800.

BACnet Start Up

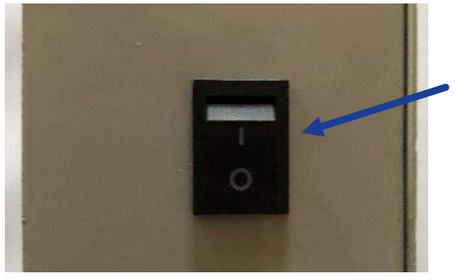
Model 40VM900052



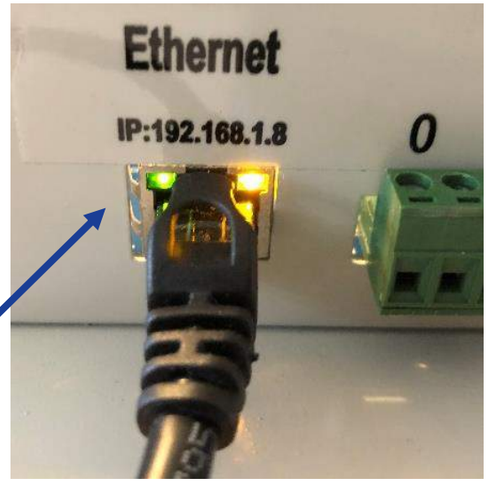
40VM900052

8. Power Up BACnet Interface.
   - Interface will beep approx. 30 seconds after power up.

Right side view of BACnet

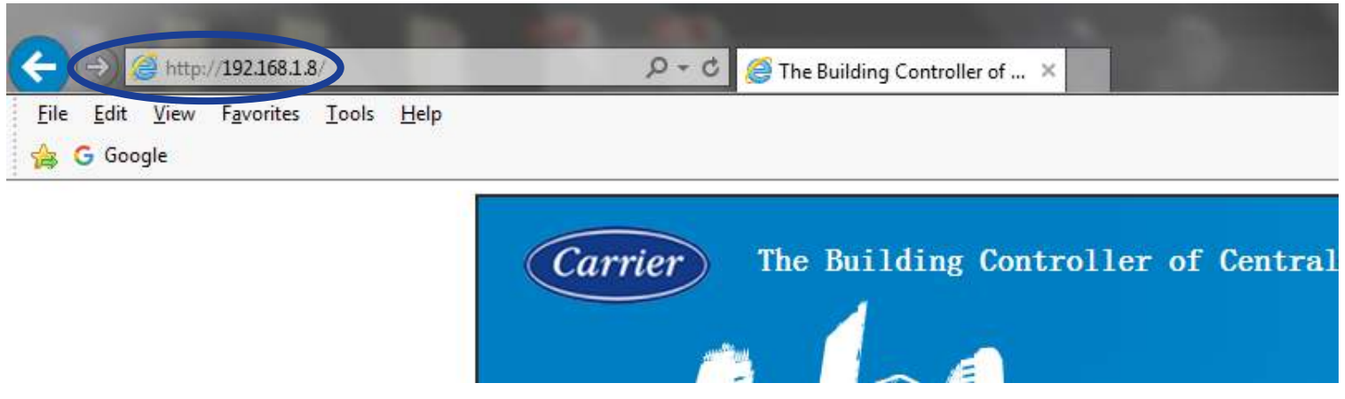


ON/OFF Switch



The green light should be lit

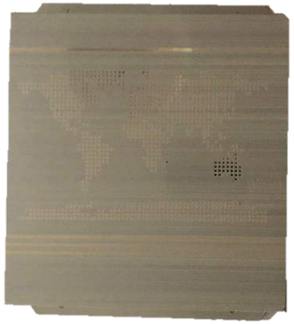
9. Power Up all outdoor units. Not necessary to power cycle indoor units or MDC box's.
10. Open Internet Explorer and enter 192.168.1.8 in the address bar.
    - The Carrier log on screen should appear, if it does not recheck LAN settings & connections.



BACnet Start Up

Model 40VM900052

Attention:
We at CE do not recommend changing this UN or PW unless absolutely necessary. If you do change it make sure it is not lost. Simply enter same PW in again to keep.



40VM900052

11. Enter “Admin” & “123456” click Login
12. Prompt for new PW will appear

13. Once logged in the Home Screen will be displayed.
14. To configure network settings click “Configuration”

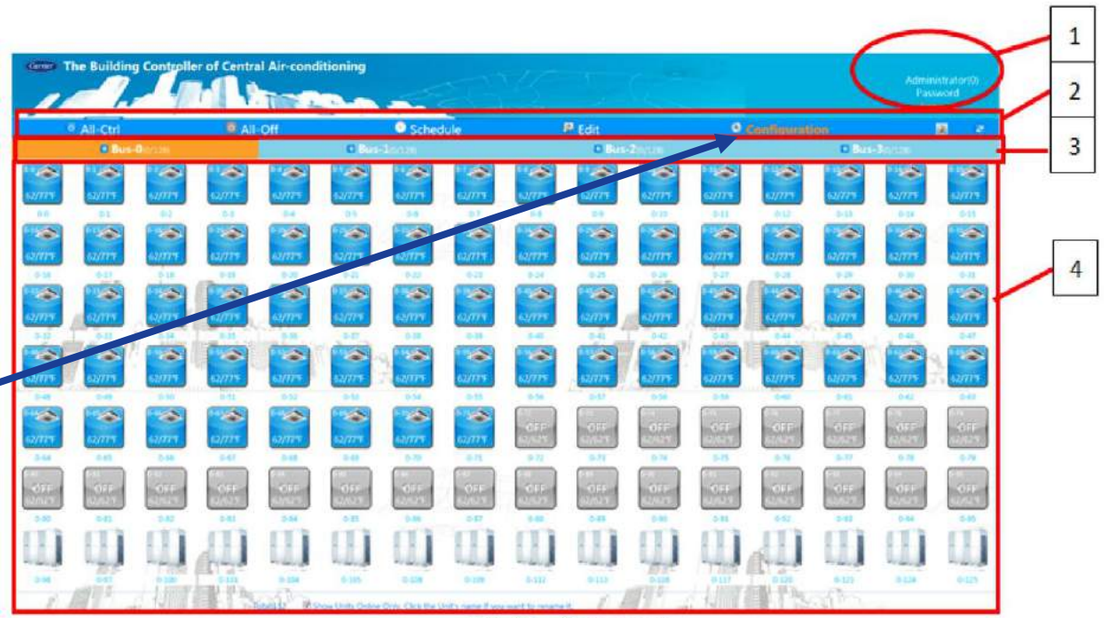
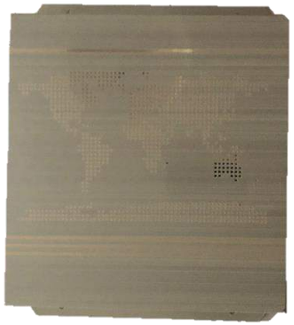


Fig. 10 —Homepage

Figure Callouts:
1. Current user information
2. Shortcut menu bar
3. Area bar
4. Equipment status field

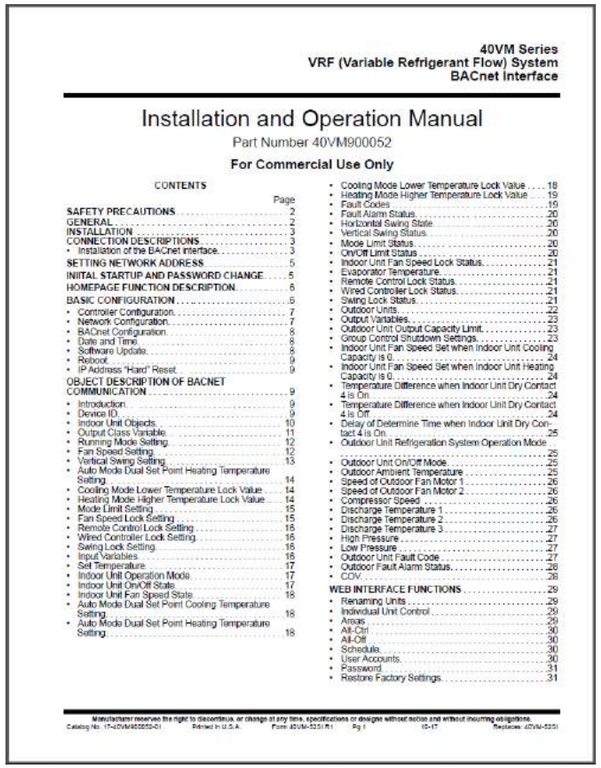
BACnet Start Up

Model 40VM900052 (end)



40VM900052

15. From the Configuration screen several items will need to be adjusted based on the application of the system, BACnet device and connected BMS system.
16. The Front End Integrator will need to program their side in order for their system to communicate with the BACnet device. We recommend providing them with a copies of the IOM's, they contain programming information useful to the Integrator.



40VM Series
VRF (Variable Refrigerant Flow) System
BACnet Interface

Installation and Operation Manual

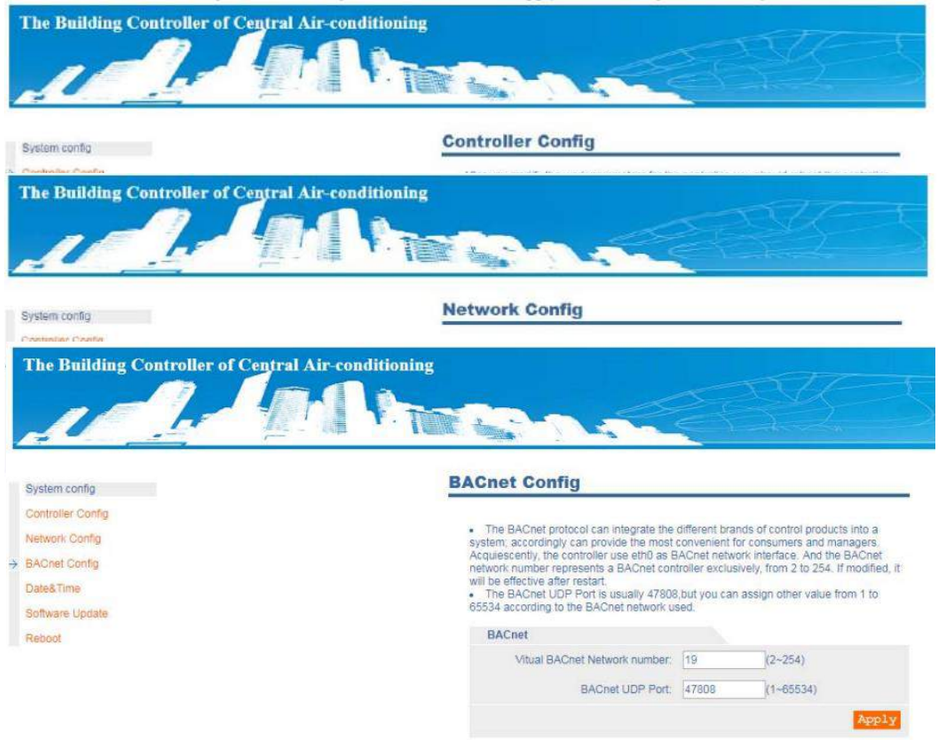
Part Number 40VM900052

For Commercial Use Only

CONTENTS

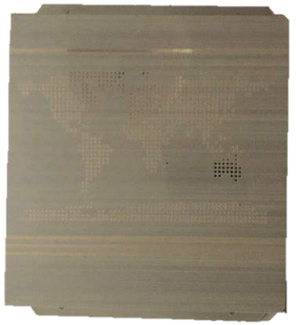
Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Catalog No. 17-40VM900052-01 Printed in U.S.A. Form 40VM-SS51 R1 Pg 1 10-17 Replaces: 40VM-SS51



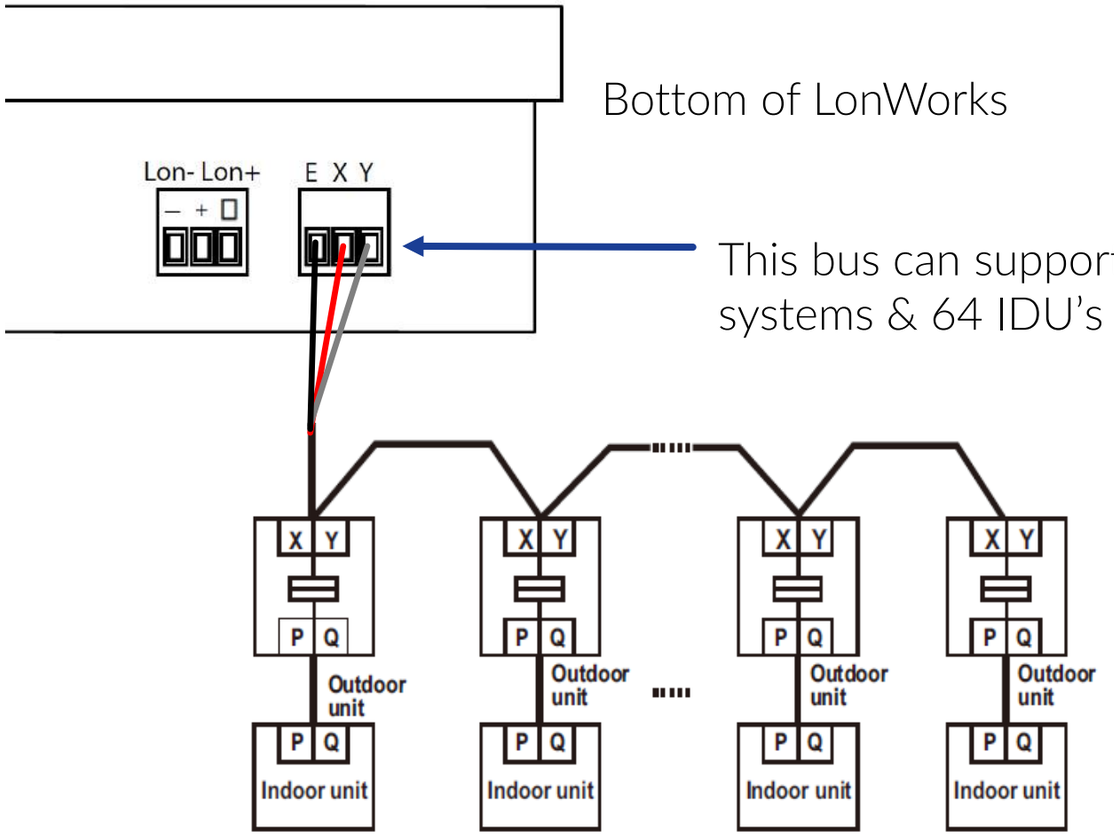
LonWorks Start Up

Model 40VM900053



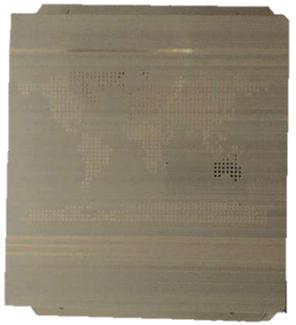
40VM900053

1. Once the VRF systems has been fully started and tested by local control or by STT (laptop). Power down all outdoor units.
2. Make sure wires are connected as shown, do not land the Lon-/Lon+ cable yet.
3. Make sure to land shields on E.



LonWorks Start Up

Model 40VM900053 (end)



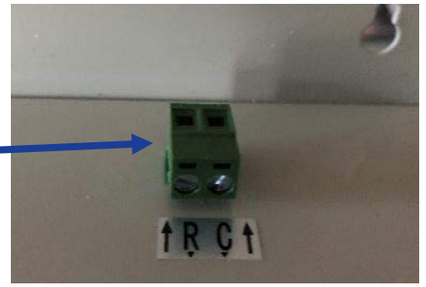
40VM900053

4. Set Network address on each Header outdoor unit, 0~7 can be used, 0 is default, do not duplicate.
5. Connect 24 VAC power supply.

Attention:
24VAC 1A. Required

A single 40VA transformer is needed for each LonWorks. If more 24 volt devices are sharing same power supply a larger transformer will be needed, size accordingly.

Top of LonWorks



6. Connect Lon-/Lon+ cable to device.
7. Power Up all outdoor units and LonWorks device. Not necessary to power cycle indoor units or MDC box's.
8. The Front End Integrator will need to program their side in order for their system to communicate with the LonWorks device. We recommend providing them with a copies of the IOM's, they contain programming information useful to the Integrator.

Section – 5
Toshiba Carrier VRF

Models covered in Section 5 of this guide:

Heat Pump – 1PH
MCY-MAP0367HS-UL
MCY-MAP0487HS-UL
MCY-MAP0607HS-UL

Heat Pump – 3PH
MMY-MAP0726HT9P-UL
MMY-MAP0966HT9P-UL
MMY-MAP1206HT9P-UL
MMY-MAP1446HT9P-UL
MMY-MAP1686HT9P-UL
MMY-MAP0726HT6P-UL
MMY-MAP0966HT6P-UL
MMY-MAP1206HT6P-UL
MMY-MAP1446HT6P-UL
MMY-MAP1686HT6P-UL

Heat Recovery – 1PH
MMY-MAP0726FT2P-UL

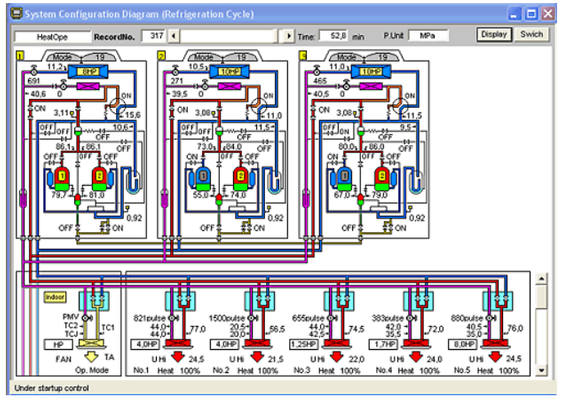
Heat Recovery – 3PH
MMY-MAP0726FT2P-UL
MMY-MAP0726FT9P-UL
MMY-MAP0966FT9P-UL
MMY-MAP1206FT9P-UL
MMY-MAP1446FT9P-UL
MMY-MAP1686FT9P-UL
MMY-MAP0726FT6P-UL
MMY-MAP0966FT6P-UL
MMY-MAP1206FT6P-UL
MMY-MAP1446FT6P-UL
MMY-MAP1686FT6P-UL

Carrier **Dyna-Doctor** Software

Carrier MCY/MMY VRF Dyna-Doctor Software

Record data, verify what's connected and more. Very easy to see how the entire system is operating from your laptop during Start Up. Record a base line of data at Start Up. The most important tool when preforming yearly VRF routine maintenance. Make your life easier by ordering Dyna-Doctor today.

Dyna-Doctor must be downloaded, installed and registered before you get to the jobsite. Software should be registered before using, registration verification can take up to 2 days.

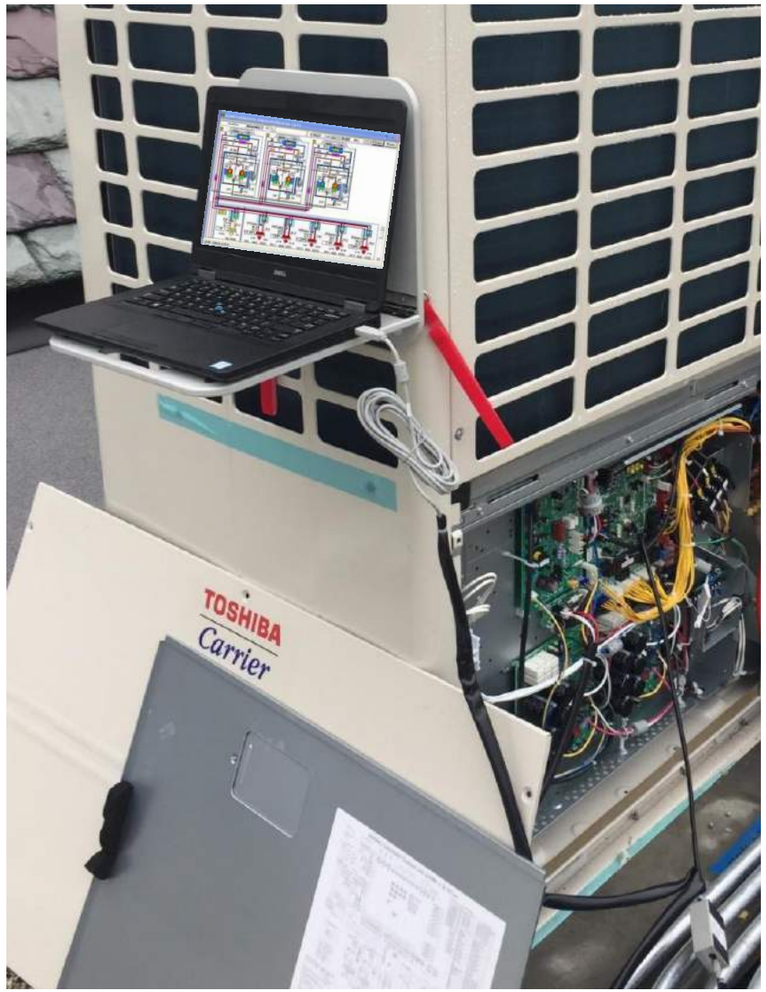


Contact CE Tech Support for latest software version.

Part # TCB-DK01SS-E List $922.00

3.2022

Connect from USB to Main PCB CN800

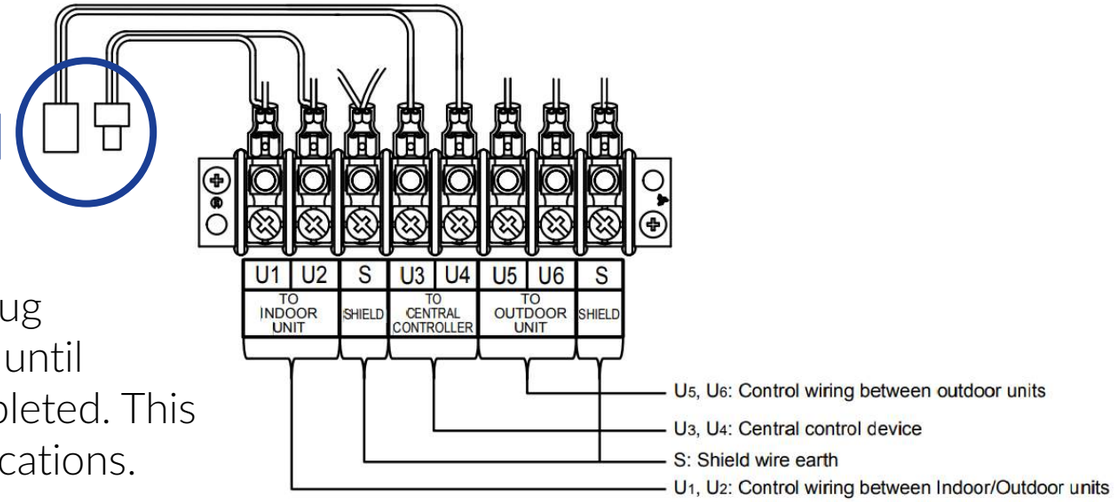


Attention:
Windows based PC only

Getting **Started**

Toshiba Carrier (TC) VRF Start Up Guide

1. TC VRF install is 100% complete. Additional charge added, stop valves opened. All wiring complete. Outdoor units, Flow Selector Boxes, Indoor Units and Remote Controls are all installed and ready to operate.
2. Outdoor units have had main power applied for a minimum of 12hrs prior to Start Up. Internal safety in outdoor unit will keep system from operating if less than 12hrs. Cannot be tricked.
3. Make sure the central control white Molex connector in outdoor unit near low voltage connections is still disconnected, if not unplug now.
4. Power OFF & disconnect any Centralized Controller connected to U3 & U4 on Header outdoor units TCS-net Relay, Touchscreen, BACnet or LonWorks, remove any connections from these terminals. These devices will be started up after all equipment is up and operating. If system has no controllers, one will be needed for Start Up. Recommended controller for this purpose – RBC-AMS54E-UL.



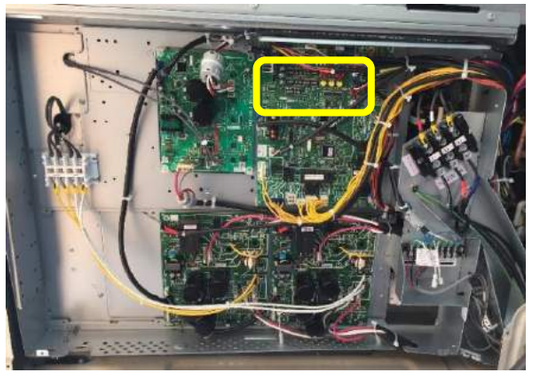
Note: Outdoor units - Leave white plug connection disconnected as shipped until addressing procedure has been completed. This is only used for Central Control applications.

Getting **Started**

Toshiba Carrier (TC) VRF Start Up Guide

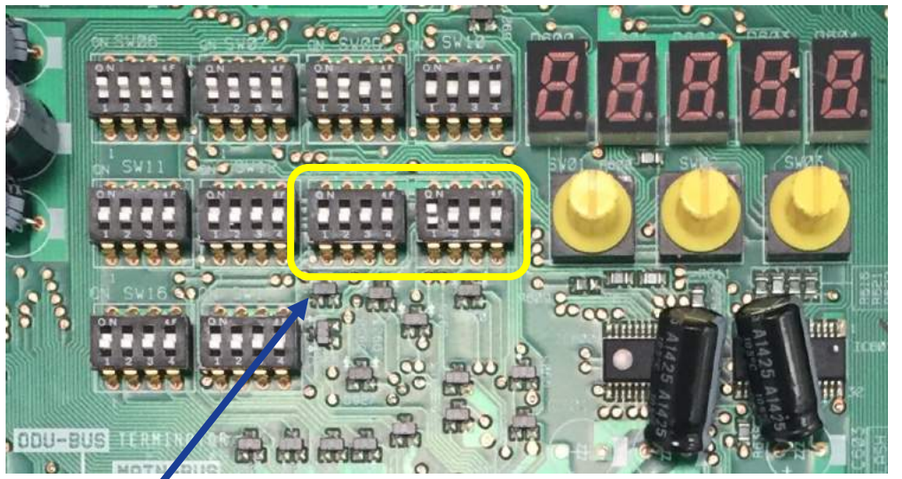
5. Power OFF all outdoor units, flow selector boxes and indoor units. Open all Header outdoor unit control box's.

6. Set Refrigerant Line Address in each Header outdoor unit – Single or Stand alone or systems without a centralized controller can skip this step.
   Line address 1~28 can be used, locate SW13 & SW14 on main PCB.
   Do not duplicate line address, each must be different.
   Note: SW13-1~3 not used.



Main PCB Example

Switch settings for a line (system) address on the interface P.C. board for the outdoor unit



Line (system) address	SW13	SW14			
	4	1	2	3	4
1	×	×	×	×	×
2	×	ON	×	×	×
3	×	×	ON	×	×
4	×	ON	ON	×	×
5	×	×	×	ON	×
6	×	ON	×	ON	×
7	×	×	ON	ON	×
8	×	ON	ON	ON	×
9	×	×	×	×	ON
10	×	ON	×	×	ON
11	×	×	ON	×	ON
12	×	ON	ON	×	ON
13	×	×	×	ON	ON
14	×	ON	×	ON	ON
15	×	×	ON	ON	ON
16	×	ON	ON	ON	ON
17	ON	×	×	×	×
18	ON	ON	×	×	×
19	ON	×	ON	×	×
20	ON	ON	ON	×	×
21	ON	×	×	ON	×
22	ON	ON	×	ON	×
23	ON	×	ON	ON	×
24	ON	ON	ON	ON	×
25	ON	×	×	×	ON
26	ON	ON	×	×	ON
27	ON	×	ON	×	ON
28	ON	ON	ON	×	ON

X = OFF

Setting Up **Outdoor Units**

TC VRF Start Up Guide

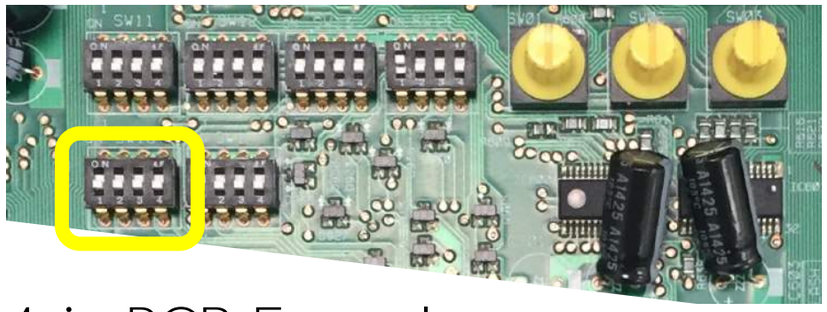
7. Outdoor units are set from the factory for Heating Priority. If one of the other three Priority settings shown below are preferred, set as indicated.

SW11		Operation
SW11-1	SW11-2	
OFF	OFF	Priority heating (factory default)
ON	OFF	Priority cooling
OFF	ON	Priority operation based on No. of units in operation (priority given to the operation mode with the largest share of units in operation)
ON	ON	Priority indoor unit (priority given to the operation mode of the specific indoor unit set up for priority operation)

⚠ CAUTION

In the case of the priority indoor unit mode, it is necessary to set up the specific indoor unit chosen for priority operation (a single unit only).

SW11



Main PCB Example

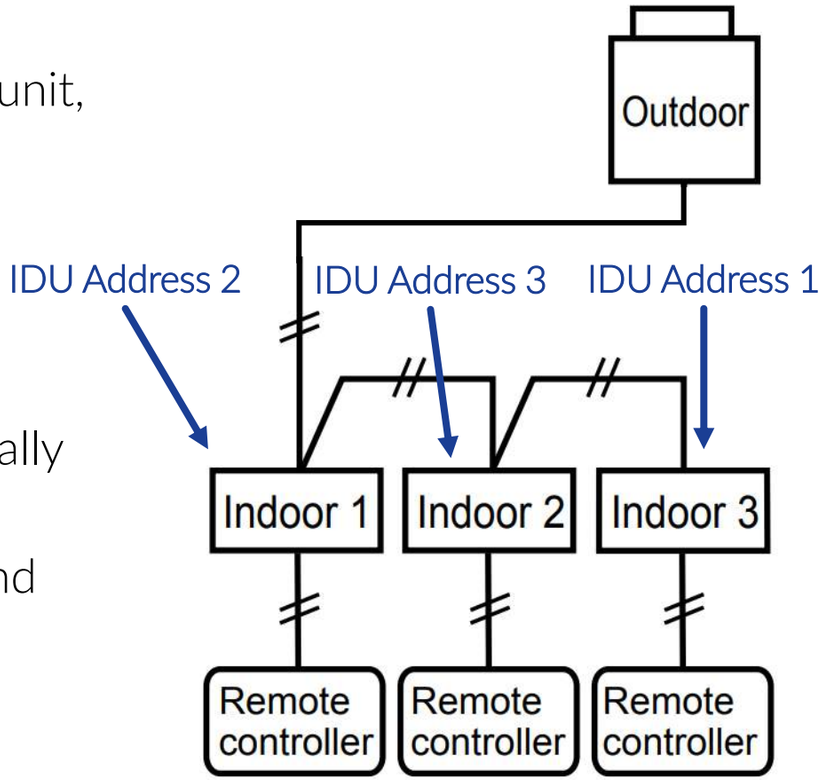
DN Code 4 must be set to 0001
on a SPECIFIC Indoor Unit
(Group controlled unit, not allowed)

Setting **Indoor Unit Address**

TC VRF Start Up Guide

Indoor Unit Addressing Explained

- Each Indoor unit must have an unique address for it to be recognized and controlled within the VRF system. The indoor unit address can be between 1 & 64.
- When Auto Addressing is used, the system will set the indoor address randomly throughout the system. If there are 3 indoor units, the system will address the indoor units using addresses 1 through 3 only. It will not use numbers higher then the amount of indoor units in the system.
- The addressing will be random. This means in the daisy chain from the outdoor unit, the addresses will not necessarily be in consecutive order. See example shown.
- We recommend using auto addressing when first starting the system. This is because Auto Addressing will also set more then just the indoor unit address (DN Code 13). It will also set the Line Address (DN Code 12) & Group Address (DN Code 14).
- If Manually Addressing the system DN Codes 12, 13 & 14 must all be set manually at each local controller.
- If a Touchscreen or other centralized control is connect after the system is up and operating, additional steps will be needed. See the Centralized Control section of this guide for details.



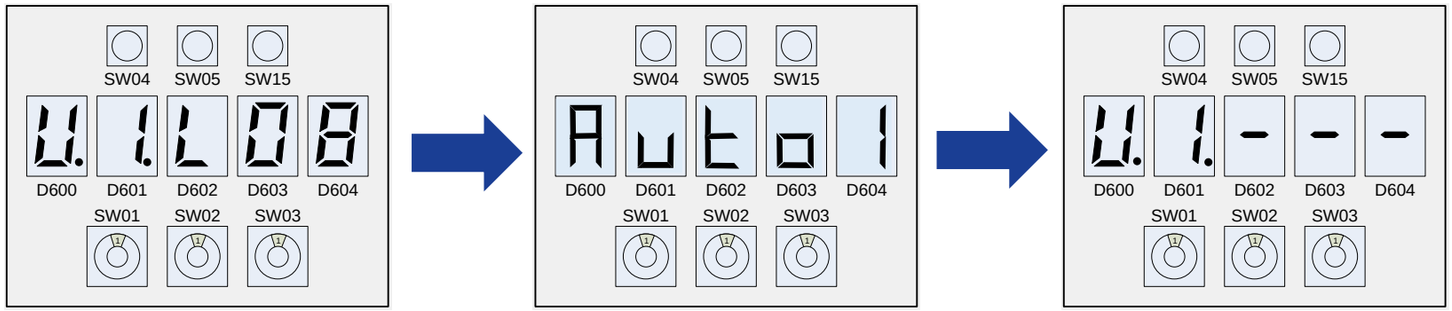
Setting Indoor Unit Address

TC VRF Start Up Guide

8. If available, connect Dyna-Doctor to Header outdoor unit and prepare software on computer for system verification and data recording. Only one system can be viewed/recorded at a time.
9. Confirm Rotary switches SW01,02,03 are all set to [1][1][1]
10. Power Up Indoor units, then Flow Selector boxes and last Outdoor units. After a few minutes the header outdoor unit displays:
    - [L08] on Header unit means indoor units need to be addressed.
    - [U1] on Header unit means indoor units already addressed.
    - If any other code is displayed, troubleshoot now.
11. Press & hold in SW15 until Auto appears in the display to start automatic indoor unit addressing.
    - Automatic addressing takes about 5 to 10 minutes to complete.
    - The display will change: Auto 1, 2, 3, ..., 9
    - Once [U1---] is displayed without flashing addressing is complete.
    - For Manual addressing got to step 12.

Main PCB on header ODU
SW04 SW05 SW15

SW01 SW02 SW03



Setting Indoor Unit Address

TC VRF Start Up Guide

12. Manual addressing instructions.
    If Automatic addressing was used, go to step 13.

Enter “Field settings menu” using steps below.

1. Press the Down arrow to highlight #7 “DN settings”.
2. Press “F2” to enter “DN settings”.

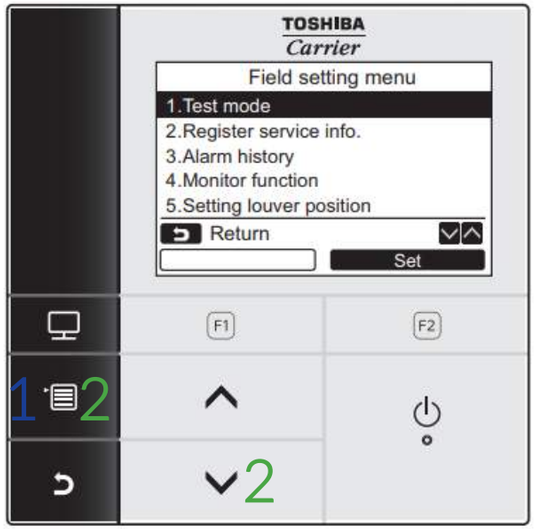
Item	Function
1. Test mode	Settings for when performing the test operation after installation
2. Register service info	Registration of information about the contact number for service, model name and serial number of the indoor unit and outdoor unit
3. Alarm history	List of latest 10 alarm data: information of check code, date, time, and unit
4. Monitor function	Monitoring data of sensor temperature, rotating speed of the compressor or other factor.
5. Setting louver position	Change the louver indication setting to match the indoor unit type.
6. Setting timer operation mode	Set whether or not the operation mode can be selected when setting the schedule timer.
7. DN setting	Advanced settings using DN code

How to enter “Field setting menu”

1 **Push the [MENU] button to display the menu screen.**

2 **Push and hold the [MENU] button and the [∨] button at the same time to display the “Field setting menu”.**

→Push and hold the buttons for more than 4 seconds.



Setting Indoor Unit Address

TC VRF Start Up Guide

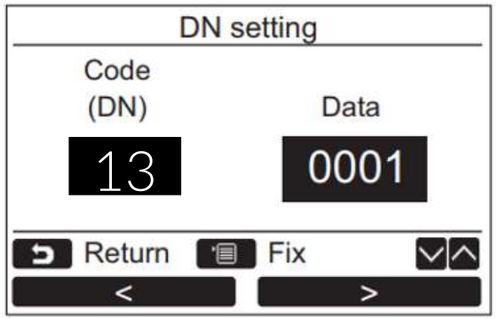
12. Manual indoor unit address instructions

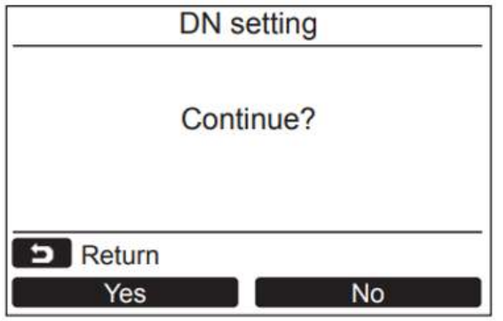
Set Line Address:

1. Go to DN code 12 – Line Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired Line Address shown on the right side, press the “MENU” button to lock in.
5. Addresses 1~28 can be used. This setting must match the Line Address set in the Header outdoor unit via DIP switch SW13 & 14.
6. Select “Yes” to continue.

Set Indoor Unit Address:

1. Go to DN code 13 – Indoor Unit Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired indoor unit address shown on the right side, press the “MENU” button to lock in.
5. Addresses 1~64 can be used.
6. Select “Yes” to continue.





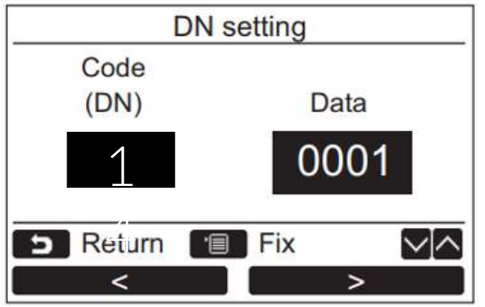
Setting Indoor Unit Address

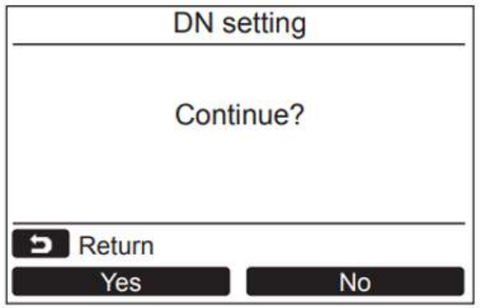
TC VRF Start Up Guide

12. Manual indoor unit address instructions (end)

Set Group Address:

1. Go to DN code 14 – Group Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired Line Address shown on the right side, press the “MENU” button to lock in.
5. In cases where there is one controller to one indoor unit set to “0000”
6. In cases where there is one controller connected to two or more indoor units set one indoor unit to “0001” and all others to “0002”
7. Select “Yes” to continue.





While setting the indoor unit addresses, you can also set up date and time and any other settings and options required for the application.

24V Interface Set Up

TC VRF Start Up Guide

13. IDU's using 24V Interface Accessory TCB-IFTH1GUL
    If no 24V Interfaces were installed go to step 14.

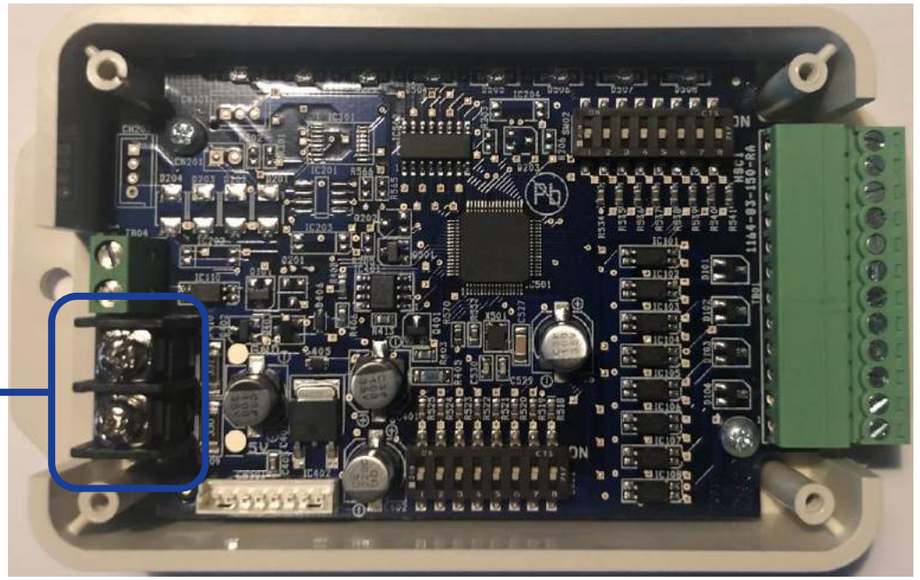
If Auto Addressing was used, the 24V interface will be assigned an address.

If Manual Address is used or a Control Address is required, a Remote Controller will be needed. Also error codes will only be displayed on a remote control. The Remote Controller as "Follower Remote Control". Refer to the Installation Manual of the Remote Controller for instructions on configurations of the controller status.

Toshiba Carrier 24V Interface
TCB-IFTH1GUL

Attention:
A dedicated 50VA transformer or larger must be used.

Terminal	Function
A (No polarity)	To Remote Controller
B (No polarity)	To Remote Controller



Terminal	Function
G	Fan
W2	Stage 2 Heating
W1	Stage 1 Heating
Y2	Stage 2 Cooling
Y1	Stage 1 Cooling
G3	High Fan
G2	Medium Fan
G1	Low Fan
R	24VAC (Out)
TR	24VAC (In)
C	Common (Out)
TC	Common (In)

24V Interface Set Up

TC VRF Start Up Guide

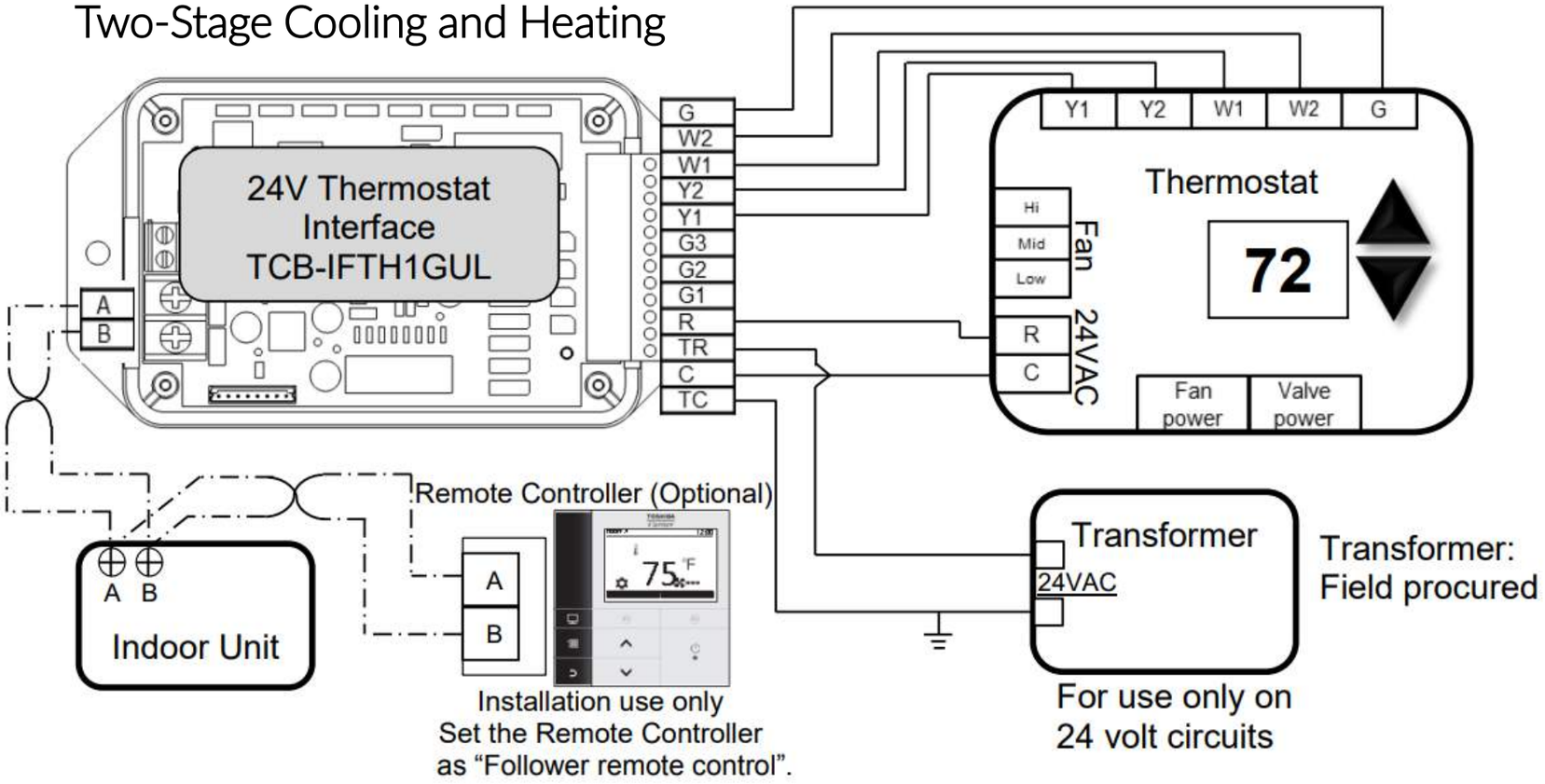
13. IDU's using 24V Interface Accessory TCB-IFTH1GUL
    If no 24V Interfaces were installed go to step 14.

Wiring options:

- Two-stage Cooling and Heating
- Single-stage Cooling and Heating with dedicated three Fan-Speed
- Single-stage Cooling and Two-stage Heating

More wiring examples are shown in the Install manual for the 24 Volt Interface.

Attention:
Do not use Heat Pump thermostats



24V Interface Set Up

TC VRF Start Up Guide

13. IDU's using 24V Interface Accessory TCB-IFTH1GUL
    If no 24V Interfaces were installed go to step 14.

DIP Switch Settings, recycle power after any changes made.

■ Fan speed (Fan mode) settings

SW01-1, SW01-2: The Indoor Unit's fan speed during Fan mode operation can be set according to the following table.
If G1/G2/G3 input is used, the fan speed will be determined by G1/G2/G3 signal from the Thermostat.

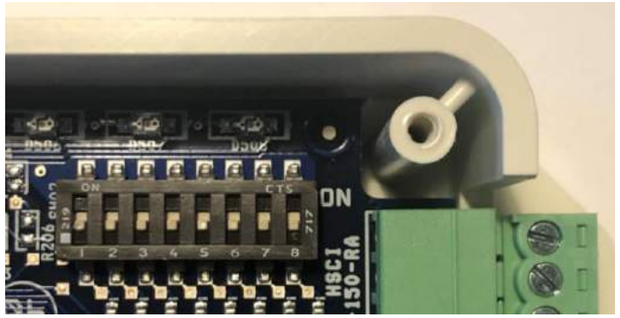
SW01-1	SW01-2	Operation
OFF	OFF	Medium fan speed (Default)
OFF	ON	Low fan speed
ON	OFF	High fan speed
ON	ON	Do not use, reserved

■ Fan speed (Cooling, Heating) settings

SW01-3, SW01-4: The Indoor Unit's fan speed during Cooling or Heating mode operation can be set according to the following table.
If G1/G2/G3 input is used, the fan speed will be determined by G1/G2/G3 signal from the Thermostat.

SW01-3	SW01-4	Operation
OFF	OFF	Auto (Default)
OFF	ON	Low fan speed
ON	OFF	Medium fan speed
ON	ON	High fan speed

DIP Switches



■ Wind direction (Heating) settings

SW01-7, SW01-8: The Indoor Unit's wind direction during Heating mode operation can be set according to the following table.

SW01-7	SW01-8	Operation
OFF	OFF	Determined by Remote Controller setting. (Default)
OFF	ON	F5 (Refer to Owner's Manual of RC)
ON	OFF	F4 (Refer to Owner's Manual of RC)
ON	ON	F2 (Refer to Owner's Manual of RC)

Wind direction Image (Refer to Owner's Manual of Remote Controller)

■ Temperature control settings (Variable/Fixed)

SW02-1: The 24V Thermostat Interface controls the Indoor Unit by the dry-contact signals from the Thermostat and the room temperature sensed by the Indoor Unit. There are two control modes configurable by the 24V Thermostat Interface. Auto (default) mode provides more comfortable operation by varying the compressor speed. On the other hand, Fixed capacity mode provides On/Off controls instead of varying the compressor speed.

SW02-1	Operation
OFF	Auto (Default), Variable capacity mode
ON	Fixed capacity mode

■ Wind direction (Cooling) settings

SW01-5, SW01-6: The Indoor Unit's wind direction during Cooling mode operation can be set according to the following table.

SW01-5	SW01-6	Operation
OFF	OFF	Determined by Remote Controller setting. (Default)
OFF	ON	F3 (Refer to Owner's Manual of RC)
ON	OFF	F2 (Refer to Owner's Manual of RC)
ON	ON	F1 (Refer to Owner's Manual of RC)

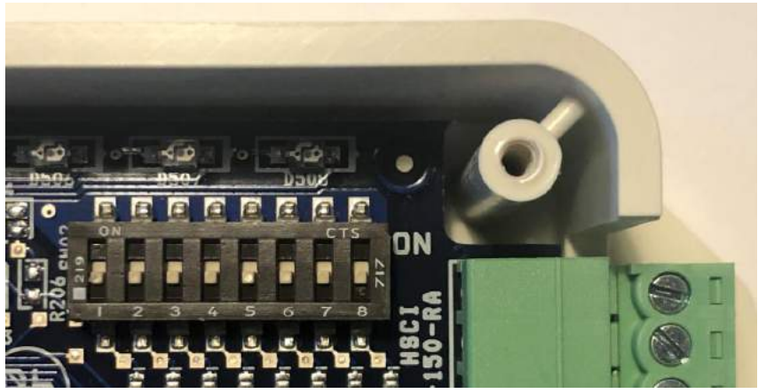
Wind direction Image (Refer to Owner's Manual of Remote Controller)

24V Interface Set Up

TC VRF Start Up Guide

13. IDU's using 24V Interface Accessory TCB-IFTH1GUL (end)
    If no 24V Interfaces were installed go to step 14.

DIP Switch Settings, recycle power after any changes made.



■ Fixed capacity mode settings

SW02-2,
SW02-3, SW02-4: When the system is configured in Fixed capacity mode (SW02-1: ON), the 24V Thermostat Interface provides capacity according to the following table depending on the signals (Y1/Y2, W1/W2) from the Thermostat.

1. Cooling operation

SW02-3	SW02-2	Operation (Capacity)
OFF	OFF	Y1: 75%, Y2: 100% (Default)
OFF	ON	Y1: 50%, Y2: 100%
ON	OFF	Y1: 100%, Y2: 100%
ON	ON	

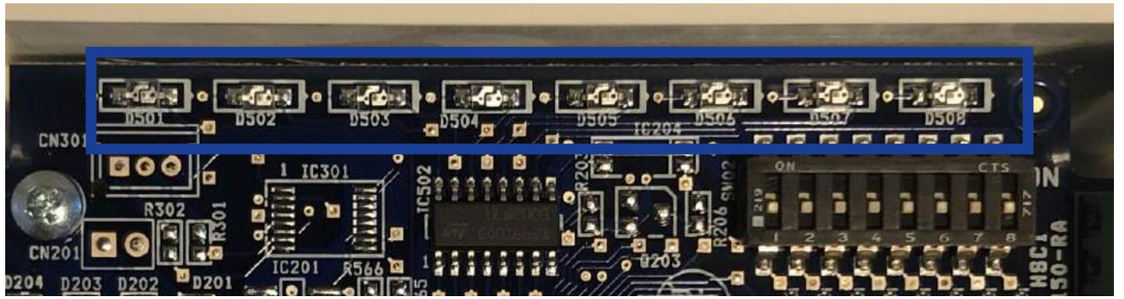
Note: In case only Y1 signal is used, set SW02-3 at ON position.

2. Heating operation

SW02-4	SW02-2	Operation (Capacity)
OFF	OFF	W1: 75%, W2: 100% (Default)
OFF	ON	W1: 50%, W2: 100%
ON	OFF	W1: 100%, W2: 100%
ON	ON	

Note: In case only W1 signal is used, set SW02-4 at ON position.

LED's – D501 D502 D503 D504 D505 D506 D507 D508



■ Minimum Run Timer

SW02-6: The Minimum Run Timer protects the system reliability by maintaining the minimum duration of the system operation based on the following table. The Minimum Run Timer sustains the system operation even if the Thermostat turns off prior to an expiry of the Minimum Run Timer.

SW02-6	Operation
OFF	5 minutes (Default)
ON	10 minutes

Note: SW02-5, SW02-7, and SW02-8 are reserved. Do not change them from OFF position.

LEDs	Color	Remarks
D501	Green	Y1/Y2 input present
D502	Red	W1/W2 input present
D503	Yellow	G input present
D504	Yellow	G1 input present
D505	Yellow	G2 input present
D506	Yellow	G3 input present
D507	Yellow	Communication Error (flashing) *1
D508	Red	Power on / Indoor Unit Error (flashing) *2

*1: Communication error between 24V Thermostat Interface and Indoor Unit.
Duplicated Header remote controller or Follower remote controller.
*2: Error detected by Indoor Unit.

40QQ Electric Heat Control Set Up

TC VRF Start Up Guide

14. 40QQ Rooftop Electric Heater Set Up
    If no 40QQ are installed with electric heat, go to step 15

- Step 1 – If Electric Heater is installed, set DIP switches as show below and recycle power to unit.

Default 

Activate Heater 

SW501

Default = OFF,OFF

40QQ Control box view

SW501_1	SW501_2	Comments
OFF	OFF	Factory Setting
ON	OFF	Activate EHeater

- Step 2 – Set DN code DC – Select a value for Heater Control.
- The DN codes DC & DB tell the heater when to turn ON & OFF.

Set data of DN (DC)	Comments
0000	Factory Setting
0001 or more	Activate EHeater

Set Data of DN (DB)	Comments
0006	Active (Factory setting: 5.4°F)

40QQ Electric Heat Control Set Up

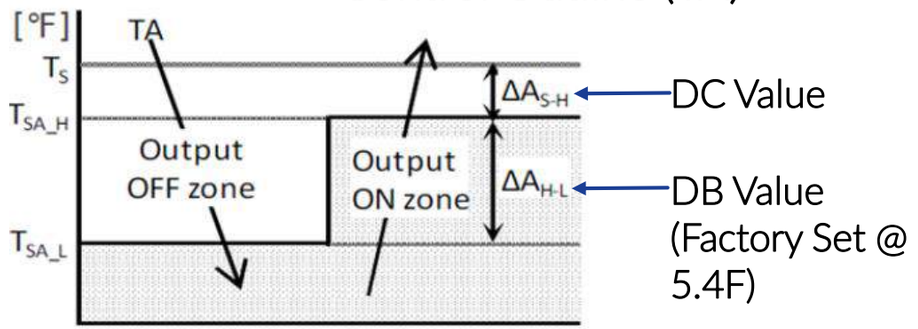
TC VRF Start Up Guide

14. 40QQ Rooftop Electric Heater Set Up
    If no 40QQ are installed with electric heat, go to step 15
    - Step 2 – Set DN code DC – Select a value for Heater Control.

Set Data	0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010
ΔAS-H (°F)	0.0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0

Factory Setting (OFF)

Control Outline (TA)



TA : Temperature of room sensor

Ts : Temperature set point on Remote controller

TSA_H : Temperature set air high (= TS-ΔAS-H)

TSA_L : Temperature set air low (= TSA_H-ΔAH-L)

Example:
DC is changed to “0001” (0.9F)
DB is left at default “0006” (5.4F)
DB Setting shown on next slide

Room set point is 70F
70 – 0.9 – 5.6 = 63.5F

Electric Heater turns ON at 63.5F
Heater turns OFF at when set point is achieved.
Heat Pump operates until set point is achieved.

The actual OFF temp for both Heater and Heat Pump depends on Mode and it’s set up. Heat and Auto Mode have different dead bands, but both can be adjusted by thier DN codes.

40QQ Electric Heat Control Set Up

TC VRF Start Up Guide

14. 40QQ Rooftop Electric Heater Set Up
    If no 40QQ are installed with electric heat, go to step 15
    - Step 3 – Set DN code “DB” – Optional Advance setting for electric heater control

Set Data of DN (DB)	Comments
0006	Active (Factory setting: 5.4°F)

Factory Setting

- DB determines the value of ΔAH- L.

Set Data	0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010
ΔAH-L (°F)	0.0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0

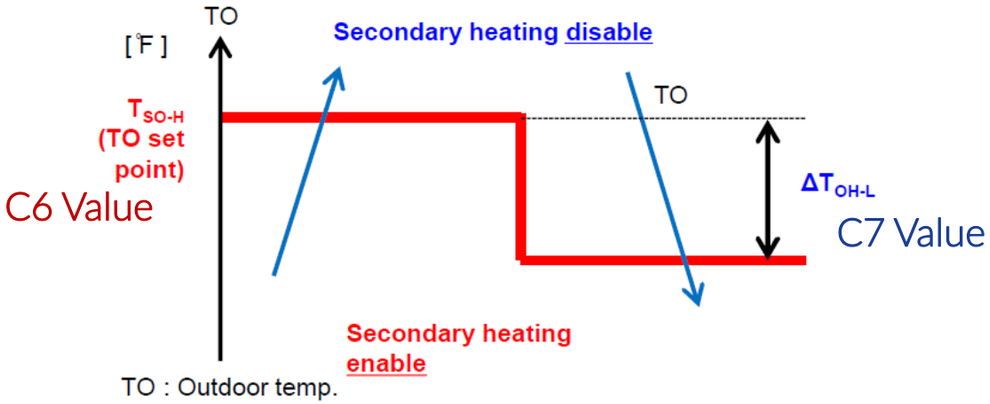
- Step 4 – Optional Secondary Heat Disable – This setting this will tell the Electric Heater at what outdoor temperature it is allowed to operate, setting charts on next slide.

Example:

C6 left at default 0000 (32F)
C7 set to 0003 (5.4F)

Electric Heater will not operate until outdoor temp drops below 32F.

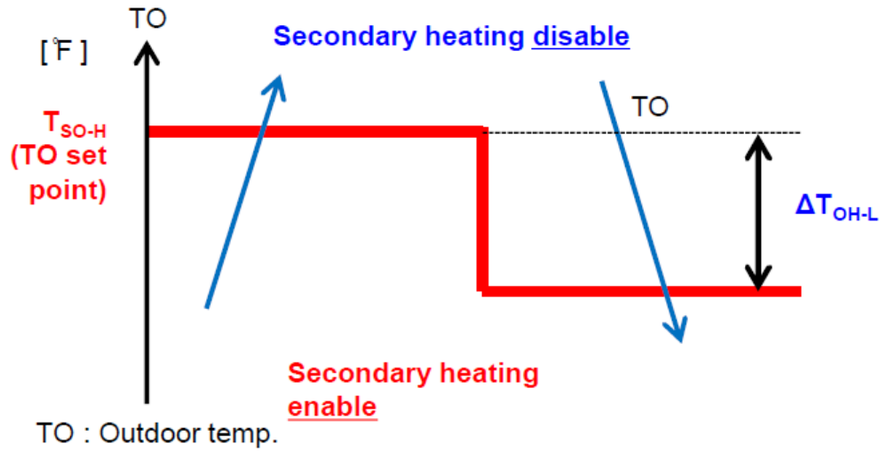
Electric Heat will be disabled again at 37.4F
32 + 5.4 = 37.4



40QQ Electric Heat Control Set Up

TC VRF Start Up Guide

14. 40QQ Rooftop Electric Heater Set Up
    If no 40QQ are installed with electric heat, go to step 15
    - Step 4 – Secondary Heat Disable



DN Code	Legend	Set Data	Value	Factory Set
C6	TSO-H	0001 to 0031	5 to 59F	0000 (32F)
C7	ΔTOH-L	0001 to 0010	0.9 to 18F	0000 (Invalid)

C6	Set Data	-0015	-0014	-0013	-0012	-0011	-0010	-0009	-0008	-0007	-0006
Value	TSO-H (°F)	5	6.8	8.6	10.4	12.2	14	15.8	17.6	19.4	21.2

C6	Set Data	-0005	-0004	-0003	-0002	-0001	0000	0001	0002	0003	0004
Value	TSO-H (°F)	23	24.8	26.6	28.4	30.2	32	33.8	35.6	37.4	39.2

C6	Set Data	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015
Value	TSO-H (°F)	41	42.8	44.6	46.4	48.2	50	51.8	53.6	55.4	57.2	59.0

C7	Set Data	0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010
Value	ΔTOH-L (°F)	0.0	1.8	3.6	5.4	7.2	9.6	10.8	12.6	14.4	16.2	18

40QQ EconoMi$er Control Set Up

TC VRF Start Up Guide

15. 40QQ Rooftop EconoMi$er Control
    If no 40QQ are installed with EconoMi$er, go to step 16

- Step 1 – If EconoMi$er Control is installed, set DIP switches as show below and recycle power to unit.

DN code setting (required to activate the EconoMi$er)

Set data of DN (5A)	Comments
0000	Invalid (Factory Setting)
0001	Activate

- Step 2 – Optional Setting for Constant Fan Control Setting for Ventilation

Operational status	Default (factory setting)	Constant fan setting
Cooling Thermo- OFF - No demand - PMV=close	Fan speed= Remote Control setting speed	Fan speed= Remote Control setting speed
Heating Thermo- OFF - No demand - PMV=close	Fan speed= LL (anti cold draft)	Fan speed=setting by DN code High (HH) Mid (H) Low (L)

Pattern	A	B	C	D	E	F
DN [9B] Thermo- ON	0 HH to OFF	0 HH to OFF	1 HH to LL	1 HH to LL	2 Remote Control Setting	2 Remote Control Setting
DN [05] Thermo- OFF	1 L or LL	12 Remote Control Setting	1 L or LL	12 Remote Control Setting	1 L or LL	12 Remote Control Setting

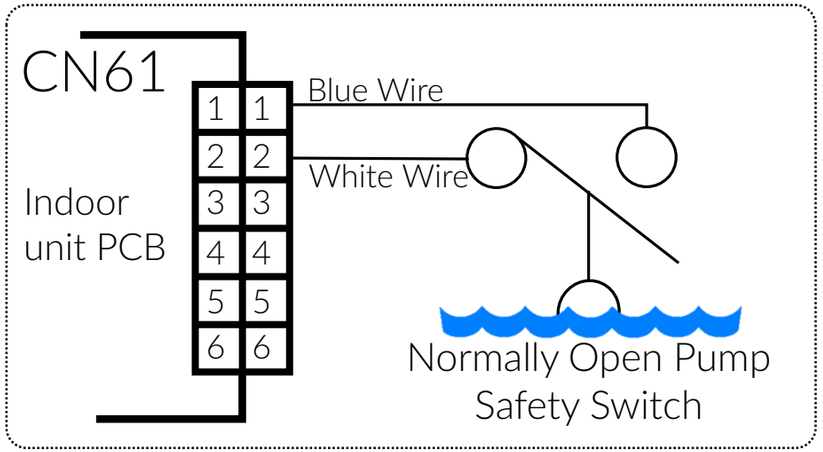
Factory Setting

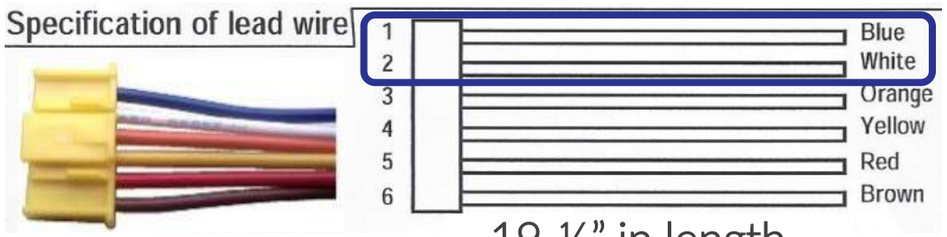
- If you want to change fan speed while Thermo- ON, change DN(9B) value.
- If you want to change fan speed while Thermo- OFF, change DN(05) value.
- Change DN(9B) and DN(05) Value

External Condensate Safety Connection Set Up

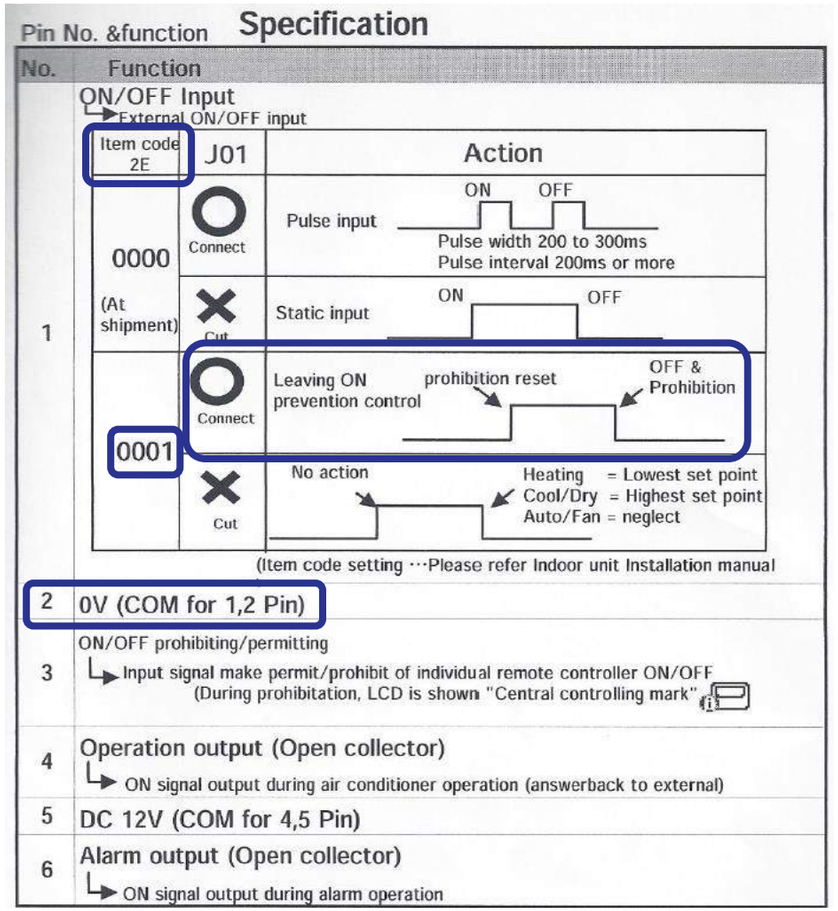
TC VRF 1PH HP Start Up Guide

16. Optional Kit – TCB-KBCN61HAE
    If no TCB-KBCN61HAE are being used, go to step 17
    - Plug the TCB-KBCN61HAE wire harness into CN61 on the indoor unit's main PCB. Connect the external pump switch to the Blue & White wires.
    - Set DN Code 2E to "0001".





Attention:
Zero Volt Connection

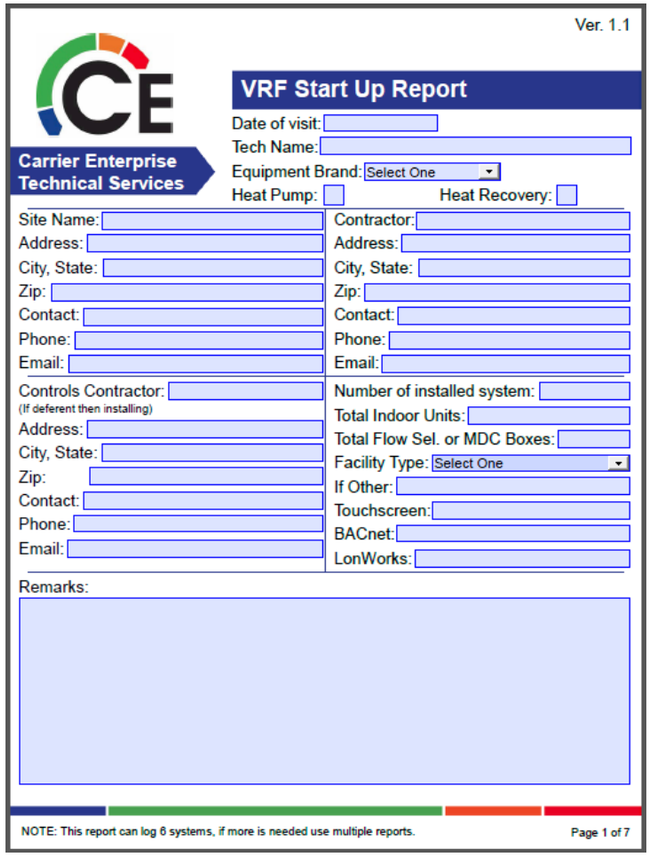


Power Recycle & Start Up

TC VRF Start Up Guide (end)

17. Power OFF all outdoor units, flow boxes and indoor units. Wait 5 minutes and power ON indoor units, flow boxes next and then outdoor units.
18. If there are any errors present after initialization, you will need to find the cause and correct before continuing.
19. Dyna-Doctor users connect laptop, verify all equipment can be seen and start recording data. Record a minimum of 2 hrs. for each system, 4 hrs. recommend.
20. Cycle the system in both heating and cooling as outdoor temperature permits. If Heat Recovery, observe/record different mixes of indoor units in Heat and Cool modes.

If system has a Touchscreen, BACnet or LonWorks centralized controller, proceed to next module of this training series.



Ver. 1.1

VRF Start Up Report

Carrier Enterprise Technical Services

Date of visit:
Tech Name:
Equipment Brand: Select One
Heat Pump: Heat Recovery:

Site Name:	Contractor:
Address:	Address:
City, State:	City, State:
Zip:	Zip:
Contact:	Contact:
Phone:	Phone:
Email:	Email:
Controls Contractor: (If deferent then installing)	Number of installed system:
Address:	Total Indoor Units:
City, State:	Total Flow Sel. or MDC Boxes:
Zip:	Facility Type: Select One
Contact:	If Other:
Phone:	Touchscreen:
Email:	BACnet:
	LonWorks:

Remarks:

NOTE: This report can log 6 systems, if more is needed use multiple reports.

Page 1 of 7

Don't forget to fill out a Start Up Report!

Downloadable at:
www.carrierenterprise.com/ne/technical-support

Section – 6
Toshiba Carrier VRF Controls

Models covered in Section 6 of this guide:

RBC-AMS54E-UL – Remote Controller

Wireless Controller
TCB-AX32-UL – Stand Alone Receiver
RCB-AX33C-UL – Integral Receiver Underceiling
RCB-AX32U(W)-UL – Integral Receiver 4-Way Cassette

Remote Controller Set Up

RBC-AMS54E-UL – Buttons & Basic Operation

1 – MONITOR: Displays the monitoring screen.
2 – MENU: Displays the menu screen.
3 – CANCEL: Functions as indicated on the display, such as returning to the previous menu screen.
4 – UP: During normal operation, adjusts the temperature. On the menu screen, selects menu item.
5 – DOWN: During normal operation, adjusts the temperature. On the menu screen, selects menu item.
6 – F1: Varies its function according to the setting screen.
7 – F2: Varies its function according to the setting screen.
8 – ON/OFF: Turns system ON or OFF.

Basic Operation:

1. Turn ON the remote control by pressing the ON/OFF button.
2. Select the MODE be pressing the MODE (F1) button.
   - AUTO, HEAT, DRY, COOL, FAN are selectable modes of operation.
3. Select FAN speed by pressing Fan Speed (F2).
   - AUTO, HIGH, MED+, MED, LOW+, LOW are selectable fan speeds.
4. Once AUTO, COOL, DRY or HEAT mode is selected, set desired temperature using the UP/DOWN arrow button. In AUTO mode set both the HEAT & COOL set points, see next page for additional information.

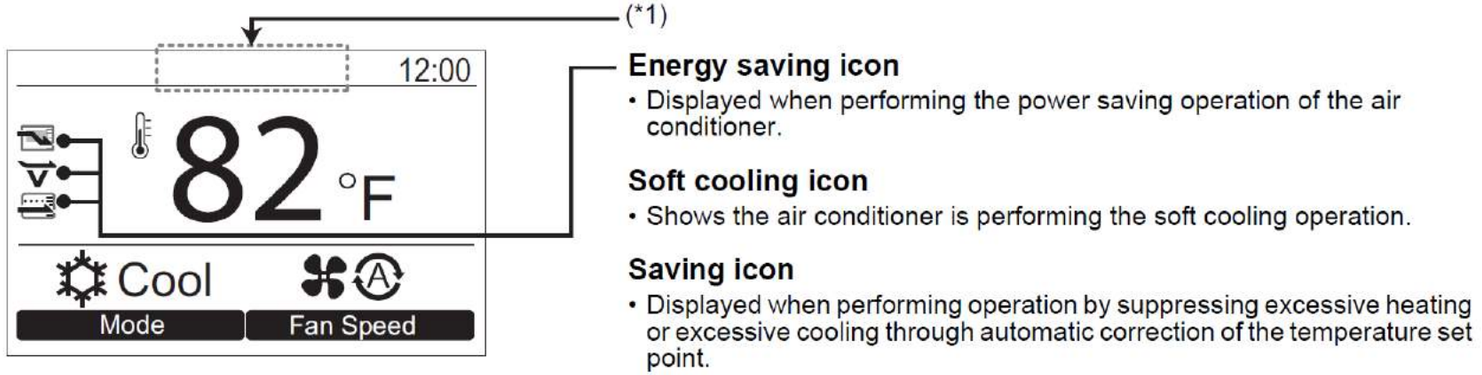
More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Remote Controller Set Up

RBC-AMS54E-UL – Display Modes

Display Modes:
To switch between displays: Push and hold the [CANCEL] button and the [Monitor] button at the same time for more than 4 seconds.

1. Normal Display (factory default)

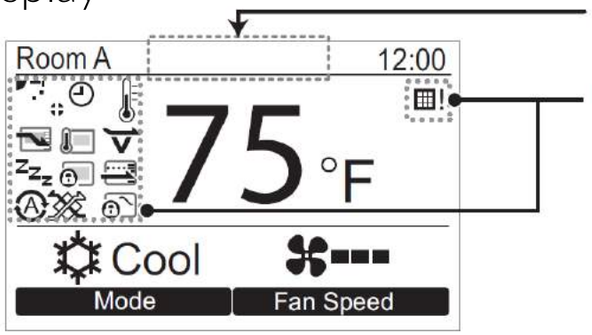


Energy saving icon
- Displayed when performing the power saving operation of the air conditioner.

Soft cooling icon
- Shows the air conditioner is performing the soft cooling operation.

Saving icon
- Displayed when performing operation by suppressing excessive heating or excessive cooling through automatic correction of the temperature set point.

2. Detailed Display



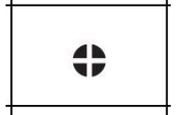
Icons appear on the screen when the detailed display mode is selected.

*1 • The "Preparing to heat" icon appears when the heating operation starts or when defrosting operation.
The indoor fan stops or the operation becomes the blowing operation when it is displayed.
• It may be displayed depending on the model when "Preparing to operate" is displayed.

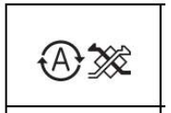
Remote Controller Set Up

RBC-AMS54E-UL – Icon List

	Shows the Energy saving operation is activated.
	Shows the remote control sensor is activated.
	Shows the Night operation is activated.
	Shows the central control device prohibits the use of the remote control.
	Shows the saving operation is activated.

	Shows a timer function is activated.
	Shows the Louver lock is activated.
	Shows the setting of the louver.
	Shows the filter needs to be cleaned.
	Shows soft cooling is activated.
	Shows operation switching control is in progress.

Ventilation Icon List:
Ventilation icons appear on the display only when a ventilation unit is connected.

	Automatic mode
	Bypass mode
	Total heat exchange mode

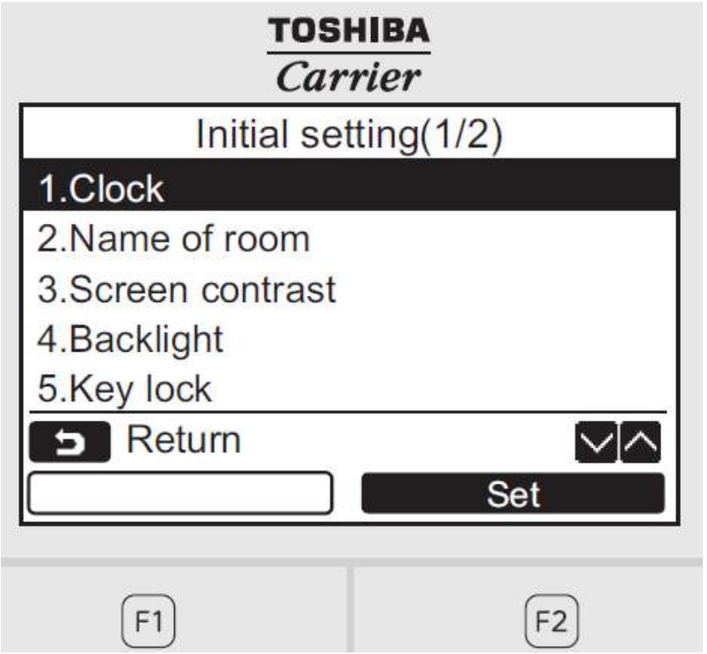
	24-hour ventilation mode
	Nighttime heat purge mode

Remote Controller Set Up

RBC-AMS54E-UL – Initial Settings

Initial Settings:

1. Press the [MENU] button. Once the Menu is displayed press the UP/DOWN buttons to highlight Initial Setting and then press [Set F2] button to select.



Initial Settings Menu:

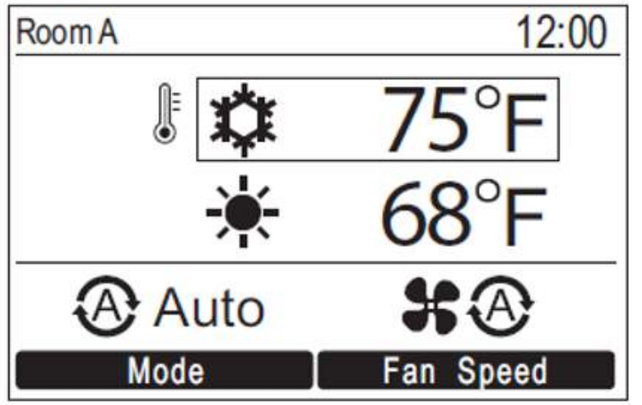
Item	Function
1. Clock	Settings for the clock (Year, Month, Day, time)
2. Name of room	Refer to the Owner's Manual supplied with the remote control.
3. Screen contrast	Contrast adjustment of the LCD
4. Back light	Turning on / off the back light of the LCD
5. Key lock	Prohibiting the button operations
6. Header / Follower	Refer to the Owner's Manual supplied with the remote control.
7. Language	Setting for the language displayed on the remote control.
8. Press & hold 4sec.	Setting for the "press and hold" operation for the [ON / OFF] key.

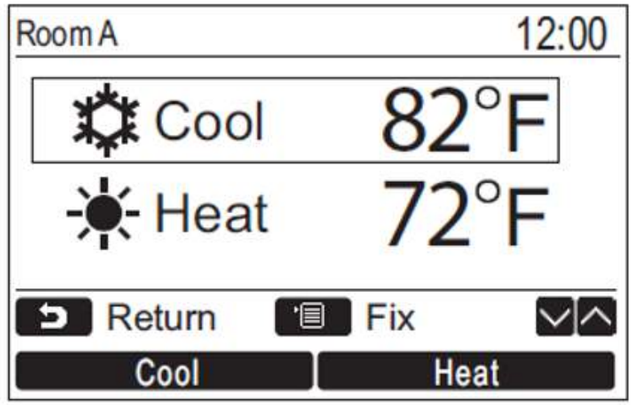
Remote Controller Set Up

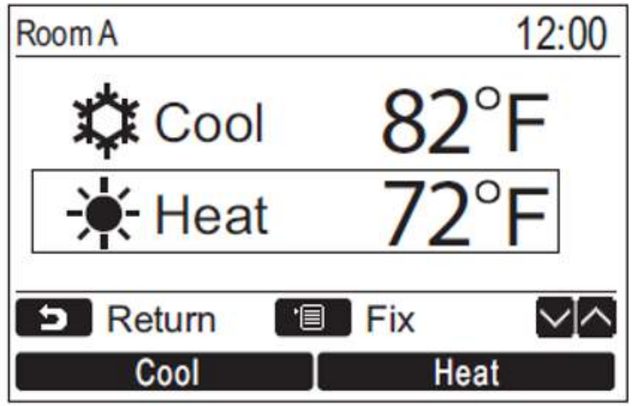
RBC-AMS54E-UL – Auto Mode & Dual Set Points

Auto Mode & Dual Set Points:
In dual set point setting, the temperature set point of individual cooling and heating can be set to adjust the indoor temperature.

1. Push the UP or DOWN button to switch to the display shown on the left.
2. To set the cooling temperature set point, push [Cool] and adjust the setting with UP/DOWN buttons. A box will surround [Cool] and Temperature set point]. To set the heating temperature set point, push [Heat] and adjust the setting with UP/DOWN buttons. A box will surround [Heat] and [Temperature set point].
   Push [MENU] to confirm the settings and return to the normal display. Push [CANCEL] to cancel the settings and return to the normal display.





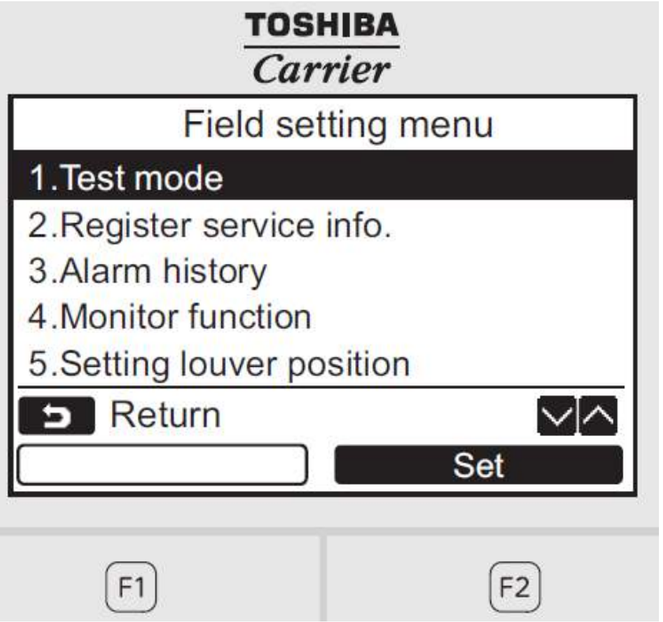


Remote Controller Set Up

RBC-AMS54E-UL – Field Settings

Field Settings:

1. Press the [MENU] button to display the menu screen.
2. Push and hold the [MENU] button and the [DOWN] button at the same time to display the “Field setting menu”. Push and hold the buttons for more than 4 seconds.
3. Push the [CANCEL] button to return.
4. Press the UP/DOWN buttons to highlight and then press [Set F2] button to select field setting to adjust.
   - Commonly used:
     - 3. Alarm history
     - 5. Setting louver position
     - 7. DN setting



Item	Function
1. Test mode	Settings for when performing the test operation after installation
2. Register service info	Registration of information about the contact number for service, model name and serial number of the indoor unit and outdoor unit
3. Alarm history	List of latest 10 alarm data: information of check code, date, time, and unit
4. Monitor function	Monitoring data of sensor temperature, rotating speed of the compressor or other factor.
5. Setting louver position	Change the louver indication setting to match the indoor unit type.
6. Setting timer operation mode	Set whether or not the operation mode can be selected when setting the schedule timer.
7. DN setting	Advanced settings using DN code

Remote Controller Set Up

RBC-AMS54E-UL – DN Codes

DN Codes:

Commonly Set DN Codes:

- 03 – Central Control Address
- 19 – Louver Type
- 2E – HA Terminals (CN61)
- 77 – Duel Set Point
- 5d – High Ceiling (Cassettes)

DN	Item	Description	At shipment
01	Filter display delay timer	0000: None 0001: 150H 0002: 2500H 0003: 5000H 0004: 10000H	According to type
02	Dirty state of filter	0000: Standard 0001: High degree of dirt (Half of standard time)	0000: Standard
03	Central control address	0001: No.1 unit to 0064: No.64 unit 0099: Unfixed	0099: Unfixed
04	Specific indoor unit priority	0000: No priority 0001: Priority	0000: Unfixed
06	Heating temp shift	0000: No shift 0001: +1˚C(+1.8˚F) 0002: +2˚C(+3.6˚F) to 0010: +10˚C(+18˚F) (Up to +6 recommended)	0002: +2˚C(+3.6˚F) (Floor type 0000: 0˚C)
0d	Existence of [AUTO] mode	0000: Provided 0001: Not provided (Automatic selection from connected outdoor unit)	0001: Not provided
0F	Cooling only	0000: Heat pump 0001: Cooling only (No display of [AUTO] [HEAT])	0000: Heat pump
10	Type	0001: 4-way Air Discharge Cassette	Depending on model type
11	Indoor unit capacity	0000: Unfixed 0001 to 0034	According to capacity type
12	Line address	0001: No.1 unit to 0030: No.30 unit	0099: Unfixed
13	Indoor unit address	0001: No.1 unit to 0064: No.64 unit	0099: Unfixed
14	Group address	0000: Individual 0001: Header unit of group 0002: Follower unit of group	0099: Unfixed
19	Louver type (Air direction adjustment)	0000: No louver 0001: Swing only 0002: (1-way Air Discharge Cassette type, Under Ceiling type) 0003: (2-way Air Discharge Cassette type) 0004: (4-way Air Discharge Cassette type)	According to type
28	Automatic restart of power failure	0000: None 0001: Restart	0000: None
2A	Selection of option/error input (CN70)	0000: Filter input 0001: Alarm input (Air washer, etc.) 0002: None	0002: None
2E	HA terminal (CN61) select	0000: Usual 0001: Leaving-ON prevention control 0002: Fire alarm input	0000: Usual (HA terminal)
31	Ventilating fan control	0000: Unavailable 0001: Available	0000: Unavailable
32	TA sensor selection	0000: Body TA sensor 0001: Remote controller sensor	0000: Body TA sensor
33	Temperature unit select	0000: ˚C 0001: ˚F : (at factory shipment)	0001: ˚F
F0	Swing mode	0001: Standard 0002: Dual swing 0003: Cycle swing	0001: Standard
F1	Louver fixed position (Louver No.1)	0000: Release 0001: Horizontal discharge position 0005: Downward discharge position	0000: Not fixed
F2	Louver fixed position (Louver No.2)	0000: Release 0001: Horizontal discharge position 0005: Downward discharge position	0000: Not fixed
F3	Louver fixed position (Louver No.3)	0000: Release 0001: Horizontal discharge position 0005: Downward discharge position	0000: Not fixed
F4	Louver fixed position (Louver No.4)	0000: Release 0001: Horizontal discharge position 0005: Downward discharge position	0000: Not fixed

Remote Controller Set Up

RBC-AMS54E-UL – DN Codes

DN Codes :

Slim, High Static Duct type

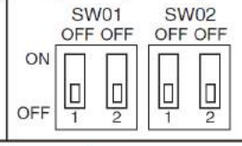
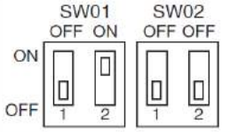
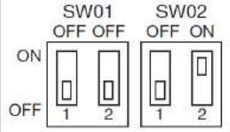
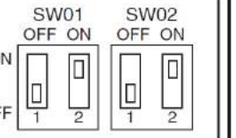
DN	Item	Description	Atshipment
5d	Static pressure selection	Slim Ducted 0001: Standard 1 (factory default) 0003: High static pressure 2 0006: High static pressure 3	0001: Standard
60	Timer setting (wired remote controller)	0000: Available (can be performed) 0001: Unavailable (cannot be performed)	0000: Available
92	Outside interlock release condition	0000: Operation stop 0001: Release com munica tion signal receive	0000: Operation stop

Type
DN code “10”

Value	Type	Model
0005	Slim Ducted	MMD-AP★★★SPH2UL
0006	High static Ducted	MMD-AP★★★H2UL

*1 Default value stored in EEPROM mounted on service P.C. board

Medium Static Ducted type

DN	Item	Description			Atshipment
5d	SET DATA	0000	0001	0003	0006
	External static pressure	0.008psi (55Pa)	0.013psi (90Pa)	0.017psi (120Pa)	0.006psi (40Pa)
		Standard (Factory default)	High static pressure 1	High static pressure 3	Low static pressure
	DIP Switch position				
60	Timer setting (wired remote controller)	0000: Available (can be performed) 0001: Unavailable (cannot be performed)			0000: Available
92	Outside interlock release condition	0000: Operation stop 0001: Release com munica tion signal receive			0000: Operation stop

Type
DN code “10”

Value	Type	Model
0004	Medium static ducted type	MMD-AP★★★BH2UL

*1 Default value stored in EEPROM mounted on service P.C. board

DN	Item	Description	Factory default
77	Dual set point setting	0000: Normal automatic 0002: Dual automatic	0000

2E	External On / Off control	Making or breaking terminals 1 and 2 of CN61 (indoor PCB) External switching option, remove jumper 01 master indoor PCB allows continuous contact switch- link 01 in place; pulse switch required	0000 = group starts when made stops when open 0001 = enable when made, disable when open	0000

Remote Controller Set Up

RBC-AMS54E-UL – DN Codes

DN Codes (end):

4-way, Compact 4-way, Ceiling, High wall type

<table>
<tr><th>DN</th><th>Item</th><th>Description</th><th>Atshipment</th></tr>
<tr><td>5d</td><td>High-ceiling adjustment
(Air flow selection)</td><td>4-way Cassette
<table>
<tr><th rowspan="2">Value</th><th>Type</th><th colspan="3">AP018</th><th colspan="3">AP021, AP024, AP030</th><th colspan="3">AP036, AP042</th></tr>
<tr><th>Air flow at outlet</th><th>4-Way</th><th>3-Way</th><th>2-Way</th><th>4-Way</th><th>3-Way</th><th>2-Way</th><th>4-Way</th><th>3-Way</th><th>2-Way</th></tr>
<tr><td>0000</td><td>Standard
(factory default)</td><td>9'2"
(2.8)</td><td>10'6"
(3.2)</td><td>11'6"
(3.5)</td><td>9'10"
(3.0)</td><td>10'10"
(3.3)</td><td>11'10"
(3.6)</td><td>12'10"
(3.9)</td><td>13'9"
(4.2)</td><td>14'9"
(4.5)</td></tr>
<tr><td>0001</td><td>High-ceiling (1)</td><td>10'6"
(3.2)</td><td>11'6"
(3.5)</td><td>12'6"
(3.8)</td><td>10'10"
(3.3)</td><td>11'6"
(3.5)</td><td>12'6"
(3.8)</td><td>13'9"
(4.2)</td><td>14'5"
(4.4)</td><td>15'1"
(4.6)</td></tr>
<tr><td>0003</td><td>High-ceiling (3)</td><td>11'6"
(3.5)</td><td>12'6"
(3.8)</td><td>—</td><td>11'10"
(3.6)</td><td>12'6"
(3.8)</td><td>—</td><td>14'9"
(4.5)</td><td>15'1"
(4.6)</td><td>—</td></tr>
</table>
Ceiling
<table>
<tr><th>Value</th><th>Type</th><th>AP015~AP056</th></tr>
<tr><td>0000</td><td>Standard (factory default)</td><td>11.5 ft (3.5 m) or less</td></tr>
<tr><td>0001</td><td>High-ceiling (1)</td><td>13 ft (4.0 m) or less</td></tr>
</table></td><td>0000: Standard</td></tr>
<tr><td>60</td><td>Timer setting
(wired remote controller)</td><td>0000: Available (can be performed)
0001: Unavailable (cannot be performed)</td><td>0000: Available</td></tr>
</table>

Type
DN code “10”

Value	Type	Model
0001*1	4-way Cassette	MMU-AP***H2UL
0007	Ceiling	MMC-AP***H2UL
0008	High Wall	MMK-AP***H2UL
0014	Compact 4-way Cassette	MMU-AP***MH2UL

*1 Default value stored in EEPROM mounted on service P.C. board

Indoor Unit Capacity
DN code “11”

Value	Capacity
0000*	Invalid
0001	007 type
0003	009 type
0005	012 type
0007	015 type
0009	018 type
0010	021 type
0011	024 type
0012	027 type
0013	030 type
0015	036 type
0016	042 type
0017	048 type
0018	056 type
0021	072 type
0023	096 type
~	—

*1 Default value stored in EEPROM mounted on service P.C. board

Remote Controller Set Up

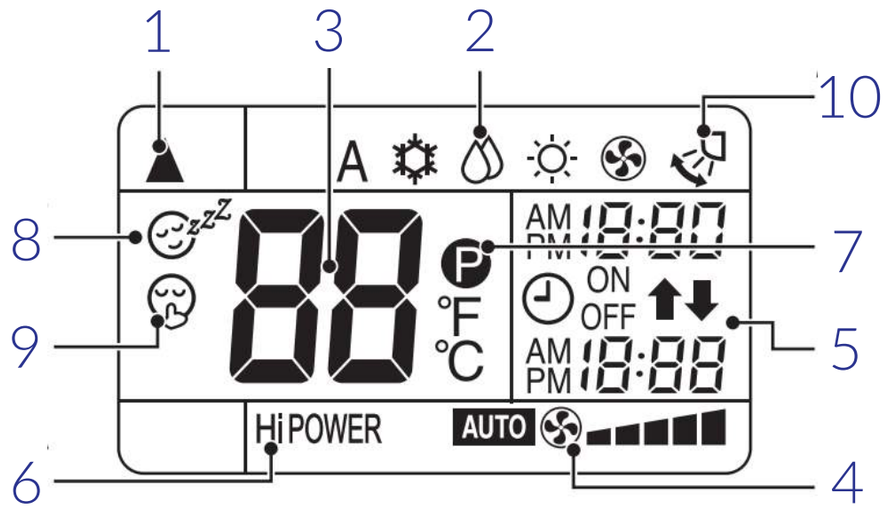
TCB-AX32-UL – Buttons

Attention:
Wireless Control cannot be used to set DN codes

1 – Infrared signal emitter
2 – START/STOP button
3 – Mode select button (MODE)
4 – Temperature button (Up/Down)
5 – Fan speed button (FAN)
6 – Auto louver button (SWING)
7 – Set louver button (FIX)
8 – Off timer button (OFF)
9 – On timer button (ON)
10 – Reserve button (SET)
11 – Cancel button (CLR)
12 – High power button (Hi-POWER)
13 – PRESET button
14 – SLEEP button
15 – COMFORT SLEEP button
16 – QUIET button

Remote Controller Set Up

TCB-AX32-UL – Display



1 – Transmission mark
This transmission mark indicates when the remote controller transmits signals to the indoor unit.

2 – Mode display
Indicates the current operation mode.
Auto changeover control, Cool, Dry, Heat, Fan only.

3 – Temperature display
Indicates the temperature setting (62 °F to 86 °F)

4 – FAN speed display
Indicates the selected fan speed. AUTO or one of five fan speed levels (LOW , LOW+ ,MED , MED+ , HIGH) can be indicated.

5 – TIMER and clock time display
The time set for timer operation or clock time is indicated.
The present time is always indicated except for TIMER operation

6 – Hi POWER display
Indicates when the high power operation starts. Push the Hi-POWER button to start and push it again to stop the operation.

7 – PRESET display
Indicated when memorizing the preferred operation mode or when it has been memorized. Also, this icon is indicated when the memorized preferred operation is displayed.

8 – COMFORT SLEEP display
Indicated during the OFF timer operation that automatically adjusts the room temperature and the fan speed. Each time you push the COMFORT SLEEP button, the display changes in the sequence of 1h, 3h, 5h, and 9h.

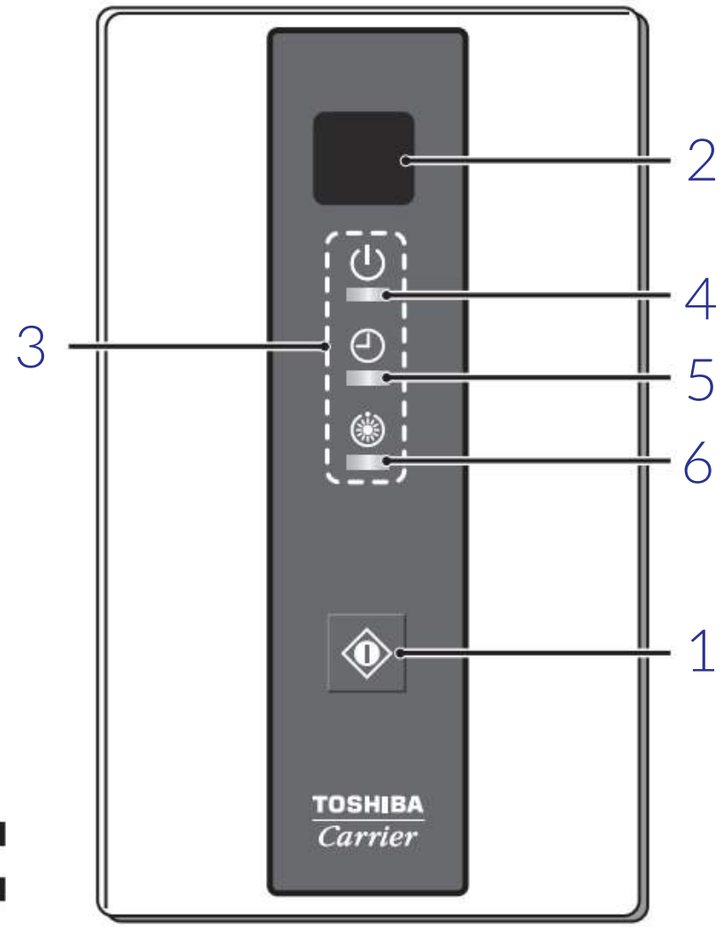
9 – QUIET display
Indicated during the quiet operation.

10 – Swing display
Indicated during the swinging operation where the horizontal louver automatically moves up and down.

Remote Controller Set Up

TCB-AX32-UL – Signal Receiving Unit

Stand Alone Receiver



1 – Temporary operation button
The battery in the remote controller expired.
A trouble occurred on the remote controller.
The remote controller has been lost.

2 – Signal receiving part
The signal sent from the remote controller is received.

3 – Display lamp
One of displays flashed while an error occurs. When the display lamp flashes, refer to “Before asking for repair work”.

4 – Lamp (Green)
This lamp illuminates when unit is on.

5 – Lamp (Green)
This lamp illuminates while the timer is reserved.

6 – Lamp (Orange)
In heating operation this lamp illuminates in the following cases;
The operation has started.
The temp. controller has worked.
The unit is under defrost operation.
This lamp flashes while a trouble occurs.

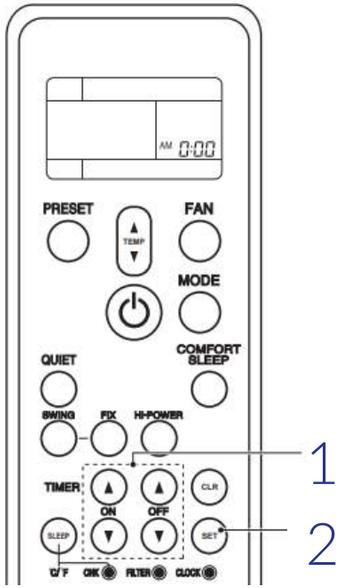
Remote Controller Set Up

TCB-AX32-UL – Initial Settings

Initial Settings – Setting the clock:

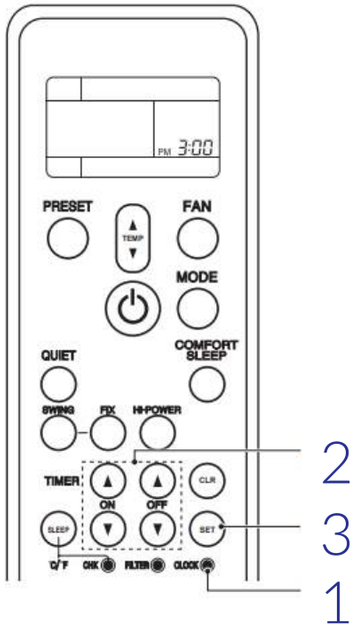
When the batteries are inserted the clock will flash and is ready to be set.

Immediately press the Timer buttons (1) to set the hour and minutes.
Then press the Set button (2) to lock in.



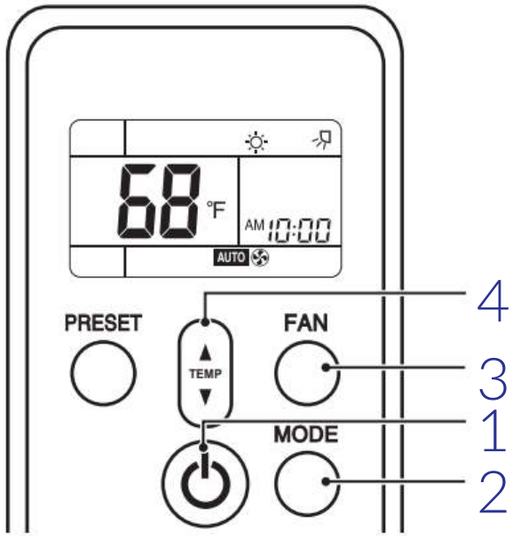
To change the clock after, use a pencil tip or paperclip and press the Clock button (1)

Then press the Timer buttons (2) to set the hour and minutes.
Then press the Set button (3) to lock in.



Remote Controller Set Up

TCB-AX32-UL – Basic Operation



Basic Operation:

1. Turn ON the remote control by pressing the ON/OFF (1) button.
2. Select the MODE be pressing the MODE (2) button.
   - AUTO, HEAT, DRY, COOL, FAN are selectable modes of operation.
3. Select FAN speed by pressing Fan Speed (3).
   - AUTO, HIGH, MED+, MED, LOW+, LOW are selectable fan speeds.
4. Once AUTO, COOL, DRY or HEAT mode is selected, set desired temperature using the UP/DOWN (4) arrow button. In AUTO mode set both the HEAT & COOL set points, see next page for additional information.

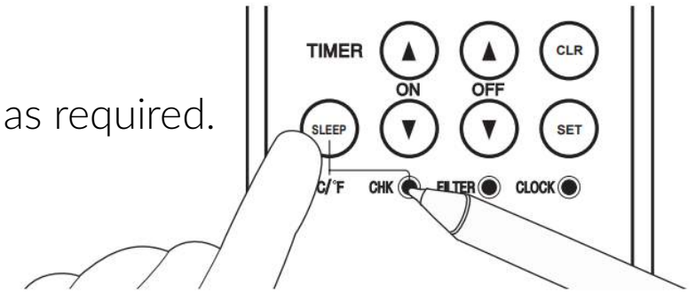
Keep the remote control where its signals can reach the receiver of the indoor unit (a distance of 23' (7 m) is allowed).

• When the timer operation is selected, the remote control automatically transmits a signal to the indoor unit at the specified time. If the remote control is kept in a position that hinders proper signal transmission, a time lag of up to 15 minutes may occur.

The Degree Celsius (°C) Display

The temperature display can be changed to the degree Celsius (°C) display as required.

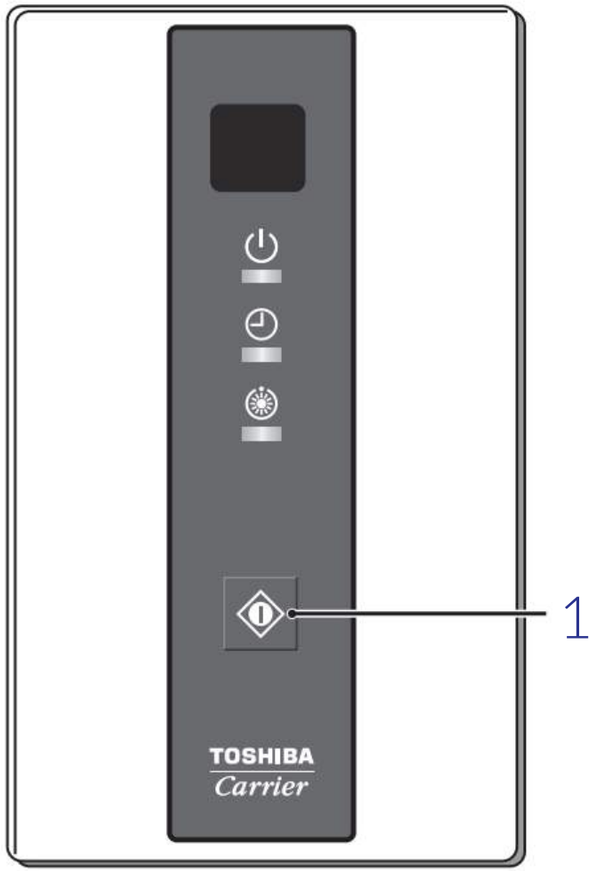
1. Press Sleep button while pressing CHK with a pen tip or paperclip.
2. The temperature display is changed to the degree Celsius display.
3. Preform the same action again will change back to Fahrenheit.



Remote Controller Set Up

TCB-AX32-UL (end) – Temporary (manual) Operation

Stand Alone Receiver



Operating unit without remote controller:

To Start:
Push temporary operation button (1).

The operation mode is the one last selected.
If you want to change it, turn the power off and then on, and push the temporary operation button again.

To Stop:
Push temporary operation button (1) once more.

More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Remote Controller Set Up

RBC-AX32U-W-UL (end) – Temporary (manual) Operation

Integral Receiver 4-Way Cassette

Operating unit without remote controller:

To Start:
Push temporary operation button (1).

The operation mode is the one last selected.
If you want to change it, turn the power off and then on, and push the temporary operation button again.

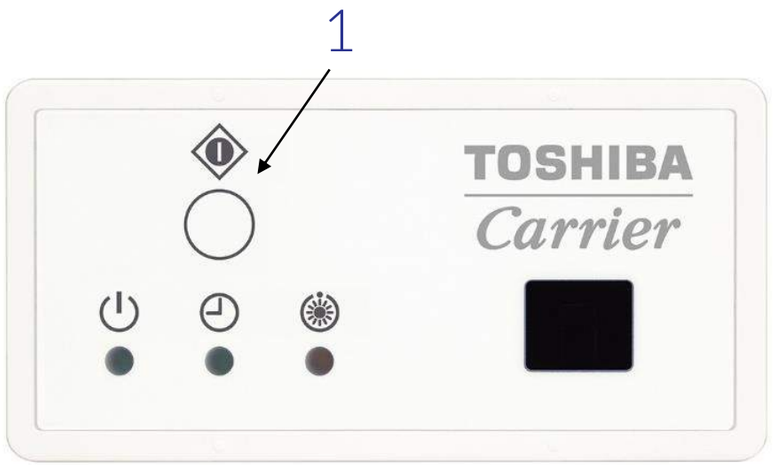
To Stop:
Push temporary operation button (1) once more.

More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Remote Controller Set Up

RBC-AX33CUL (end) – Temporary (manual) Operation

Integral Receiver Underceiling



Operating unit without remote controller:

To Start:
Push temporary operation button (1).

The operation mode is the one last selected.
If you want to change it, turn the power off and then on, and push the temporary operation button again.

To Stop:
Push temporary operation button (1) once more.

More detailed information on these items and more can be found in the Installation and Operation Manual that came with the remote controller.

Section – 7

Toshiba Carrier VRF Central Controls

Models covered in Section 7 of this guide:

Touch Screen
BMS-CT1280UL

Touch Screen
BMS-CT5120UL

BACnet
BMS-IFBN640TL/E/UL

LonWorks
TCB-IFLN642TLUL

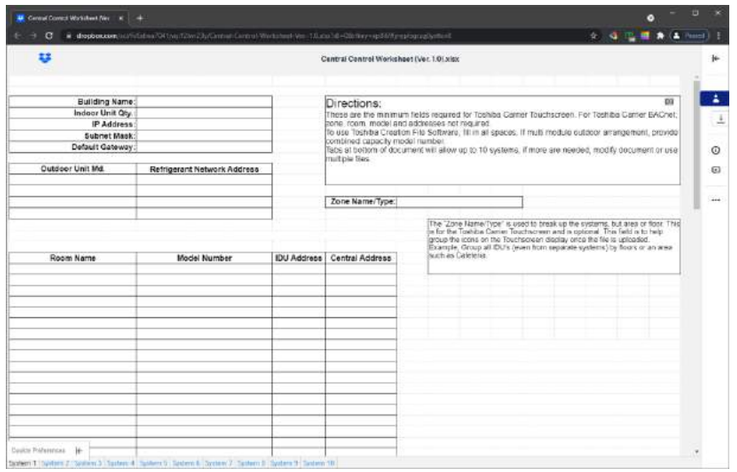
TCS-NET Relay Interface
BMS-IFLSV4UL

Toshiba Carrier VRF Central Controls

Centralized Control Start Up Overview

- If you are installing a Touchscreen, BACnet or LonWorks centralized control, the equipment locations and indoor unit addresses will be required for programing.
- Whether you use Auto Addressing or Manually address the indoor units, you will need a list of all this information when you are ready to program the control.
- If you have multiple VRF systems, also record the Refrigerant Network address that was set in each of the Header outdoor units.
- You can use a pad and pen, Excel document or just write the info down and draw a map.
- Use the way that is easiest for you to keep the information organized and ready when you need it.
- We have made an Excel template to help keep it organized. Look on our Tech Support page to download.

Room or Area	Model Number	Refrigerant Network	IDU Address	Central Address
Room 101	MMC-AP0361H2UL	1	1	1
Conference	MMU-AP0071MH2UL	1	2	2
Storage	MMU-AP0242H2UL	2	3	3
Office 202	MMU-AP0071MH2UL	2	4	4



Central Control Worksheet
www.carrierenterprise.com/ne/technical-support

Toshiba Carrier VRF Central Controls

Centralized Control Start Up Overview

This is a general overview for start up of all centralized controls for Toshiba Carrier VRF.

1. Once the VRF systems has been fully started and tested by local control or by Dyna-Doctor (laptop). Power down all outdoor units.
2. If not already done during equipment Start Up, set Refrigerant Line Address on each Header outdoor units.
3. Connect central control Molex connector on Header outdoor units, if not connect now.
4. Power up centralized control devices, for Touchscreen & BACnet upload new program from File Creation Software.
5. Connect control wire from U3, U4 centralized control daisy chain in Header outdoor units to TCS-net Relay, BACnet or LonWorks.
6. Power Up all outdoor units. Not necessary to power cycle indoor units or flow selector boxes.
7. Go to each local remote controller and set Central Control Address DN Code 03, Indoor Unit Address DN Code 13 & Line Address DN Code 12 to match new program from File Creation Software.
8. If there are no local controllers connected to the indoor units, One must be temporarily connected to set addresses and then can be removed. Power recycle indoor unit after removing controller.
9. If Touchscreen was installed, we recommend saving a back up final version of programming.

Central Control Molex Connector
Located in Header ODU

Setting Indoor Unit Address

Centralized Control Start Up Overview

Enter “Field settings menu” using steps below.

1. Press the Down arrow to highlight #7 “DN settings”.
2. Press “F2” to enter “DN settings”.

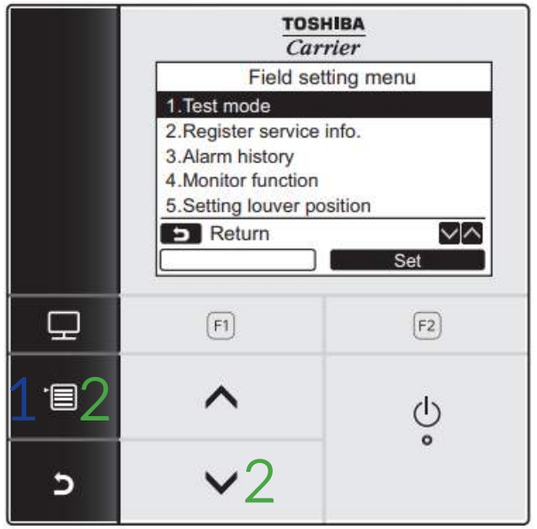
Item	Function
1. Test mode	Settings for when performing the test operation after installation
2. Register service info	Registration of information about the contact number for service, model name and serial number of the indoor unit and outdoor unit
3. Alarm history	List of latest 10 alarm data: information of check code, date, time, and unit
4. Monitor function	Monitoring data of sensor temperature, rotating speed of the compressor or other factor.
5. Setting louver position	Change the louver indication setting to match the indoor unit type.
6. Setting timer operation mode	Set whether or not the operation mode can be selected when setting the schedule timer.
7. DN setting	Advanced settings using DN code

How to enter “Field setting menu”

1 **Push the [MENU] button to display the menu screen.**

2 **Push and hold the [MENU] button and the [∨] button at the same time to display the “Field setting menu”.**

→Push and hold the buttons for more than 4 seconds.



Setting Indoor Unit Address

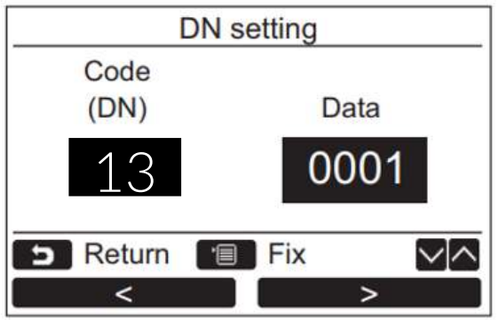
Centralized Control Start Up Overview

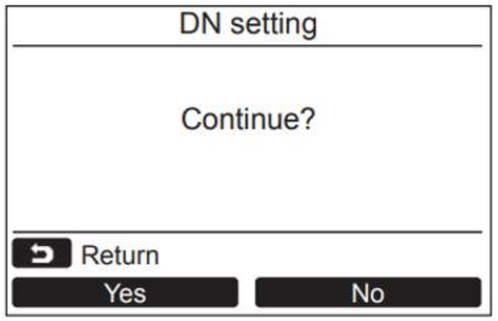
Set Line Address:

1. Go to DN code 12 – Line Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired Line Address shown on the right side, press the “MENU” button to lock in.
5. Addresses 1~28 can be used. This setting must match the Line Address set in the Header outdoor unit via DIP switch SW13 & 14.
6. Select “Yes” to continue.

Set Indoor Unit Address:

1. Go to DN code 13 – Indoor Unit Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired indoor unit address shown on the right side, press the “MENU” button to lock in.
5. Addresses 1~64 can be used.
6. Select “Yes” to continue.



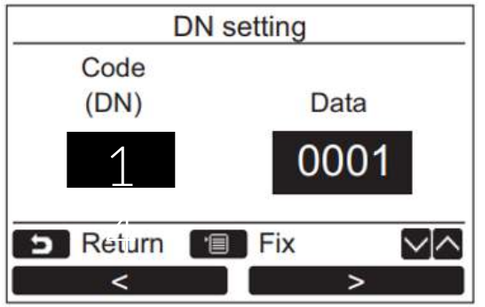


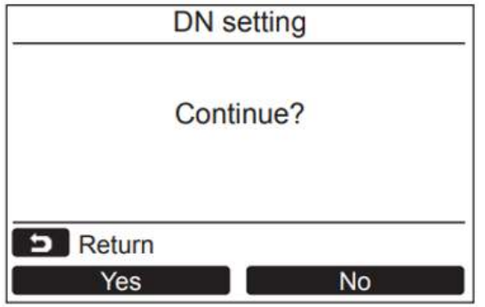
Setting Indoor Unit Address

Centralized Control Start Up Overview

Set Group Address:

1. Go to DN code 14 – Group Address
2. Utilize the “F1” & “F2” to move the curser left or right.
3. The “UP” & “DOWN” arrows will check the valve.
4. Once you have the desired Line Address shown on the right side, press the “MENU” button to lock in.
5. In cases where there is one controller to one indoor unit set to “0000”
6. In cases where there is one controller connected to two or more indoor units set one indoor unit to “0001” and all others to “0002”
7. Select “Yes” to continue.





While setting the indoor unit addresses, you can also set up date and time and any other settings and options required for the application.

Touchscreen Start Up

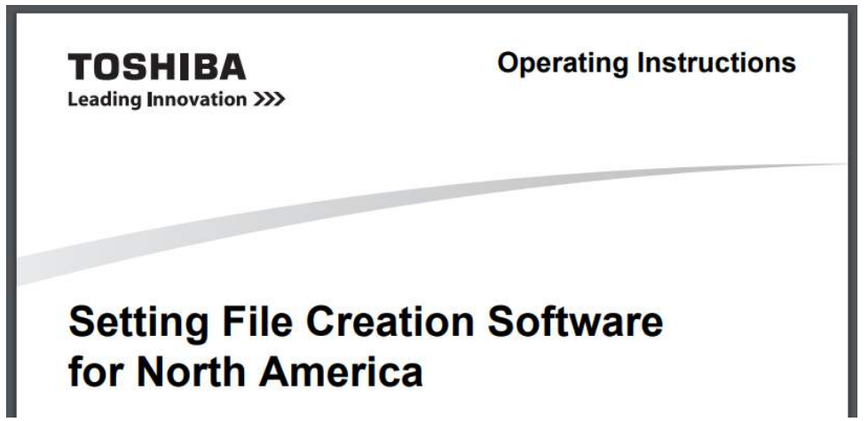
BMS-CT1280UL

Touch Screen
BMS-CT1280UL

Before the Touchscreen controller can be used, a setting file must be created and uploaded to the Touchscreen first. Without this file the system can only be controlled by the local remote controllers attached to the fan coils directly.

We at CE are happy to create this file for you, all we would need is the excel spreadsheet of the unit's addresses, models and locations of each. In the event you would like to build the program yourself using the Creation Software, the instructions in the Appendix of this guide will help you do so.

If you run into issues contact your Sales Representative or Tech Support to help with this part of the process.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Operating Instructions

Setting File Creation Software for North America

See Appendix of this guide

Touchscreen Start Up

BMS-CT1280UL (cont.)

Touch Screen
BMS-CT1280UL

1. Once the VRF systems has been fully started and tested by local control or by Dyna-Doctor, power down all outdoor units.
2. If not already done during equipment Start Up, set Refrigerant Line Address on each Header outdoor units, 1-28 can be used, 1 is default, do not duplicate. Set via the SW13 & SW14 DIP switches in the Header outdoor unit.
3. Connect the central control Molex connector on all Header outdoor units.

Central Control Molex Connector
Located in Header ODU

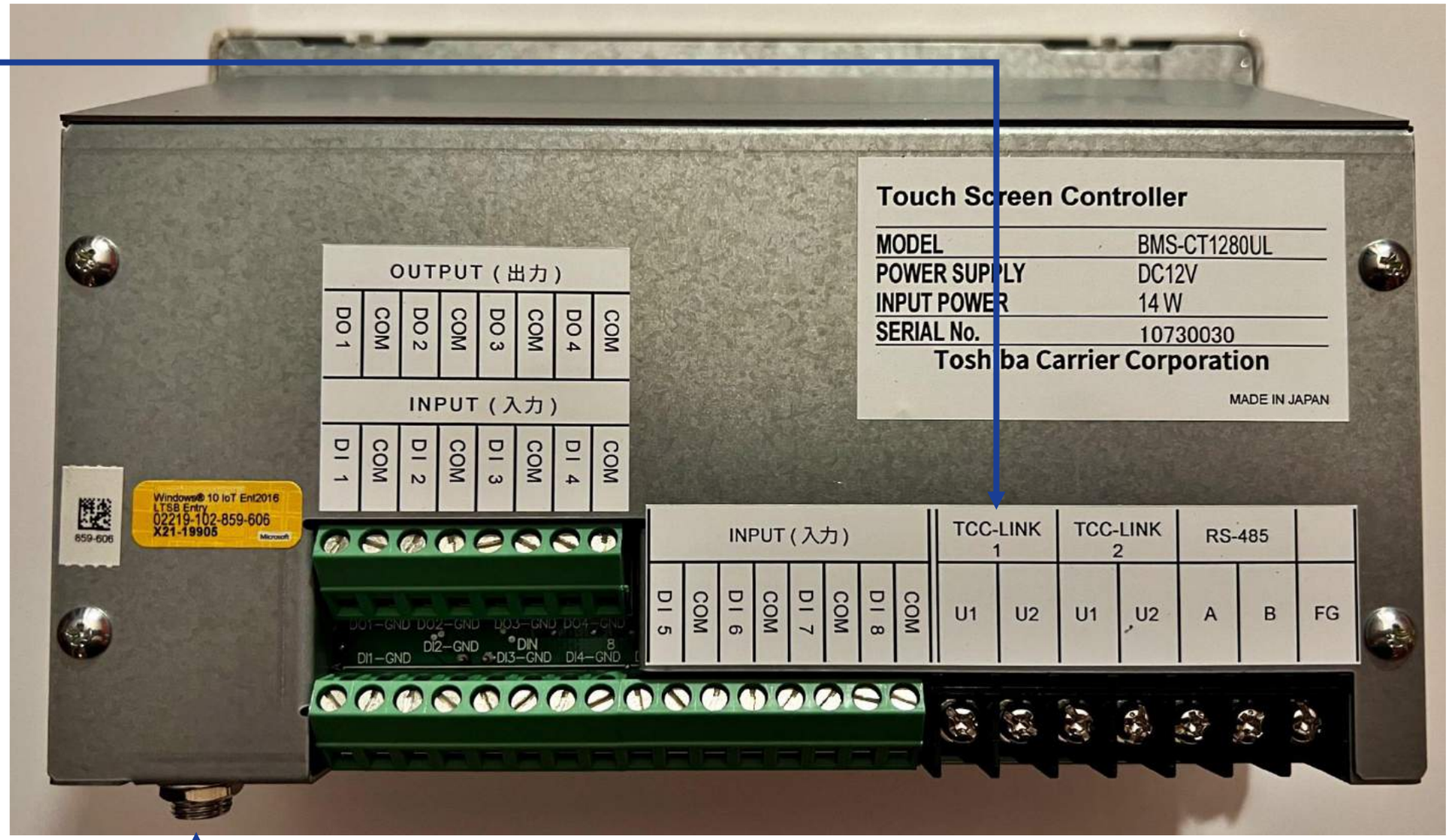
Touchscreen Start Up

BMS-CT1280UL (cont.)

Touch Screen
BMS-CT1280UL

Back of Touchscreen

4. Connect outdoor unit daisy chain to U1 & U2.
5. Do not connect LAN cable at this time.
6. Connect supplied power cord to Touchscreen. The other end has 120 Volt 3-prong plug for a wall outlet.



Touchscreen Start Up

BMS-CT1280UL (cont.)

Touch Screen
BMS-CT1280UL

7. Do not connect LAN at this time.

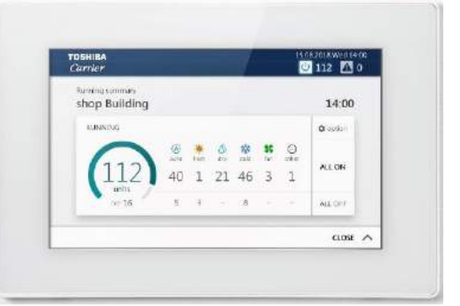
There is a second LAN connection under this “unused” label, This connection is not used.

USB Connection for outputting data.

Bottom of Touchscreen

Touchscreen Start Up

BMS-CT1280UL (cont.)



Touch Screen
BMS-CT1280UL

8. If you have any of the following indoor units and they have no local controller follow this step. If all units have local controllers go to next step.
   - Med Static Ducted - MMD-AP---6BHPUL
   - High Wall – MMK-AP---7HPUL
   - High Static Ducted – MMD-AP---6HPUL
   - Underceiling – MMC-AP---8HPUL
   - 4-Way Cassette – MMU-AP---4HPUL

   Before power is reapplied to system you will need to power down and temporarily connect a wired remote controller to any indoor unit without a local controller. Power up the indoor unit and set DN Code 103 to 0001. Make sure to recycle power to indoor unit after removing controller. If this is setting is not changed the system will not function correctly. If there are other DN codes or address to set, these can be set at the same time.
9. Power up Touchscreen and then outdoor units. Not necessary to power cycle indoor units or flow selector boxes.
10. Go to each local remote controller and set Central Control Address DN Code 03. If manual addressing was done, DN codes 12 & 14 will need to be set as well. This is done by way of the wired control connected to the indoor unit. These must match the new program from File Creation Software.

Touchscreen Start Up

BMS-CT1280UL (end)

11. Plug your computer into the LAN connection.

Bottom of Touchscreen

12. Using the File Creation Software, upload the file to the device.
13. Once file is uploaded, recycle power to touchscreen and disconnect laptop.
14. The Touchscreen display will populate with the system components that were entered in the File Creation tool.
15. We recommend navigating around the Touchscreen display and test the control/operation of the VRF system. Control through the Touchscreen should be verified.

If laptop does not have a network port, a USB to Ethernet adapter can be used.

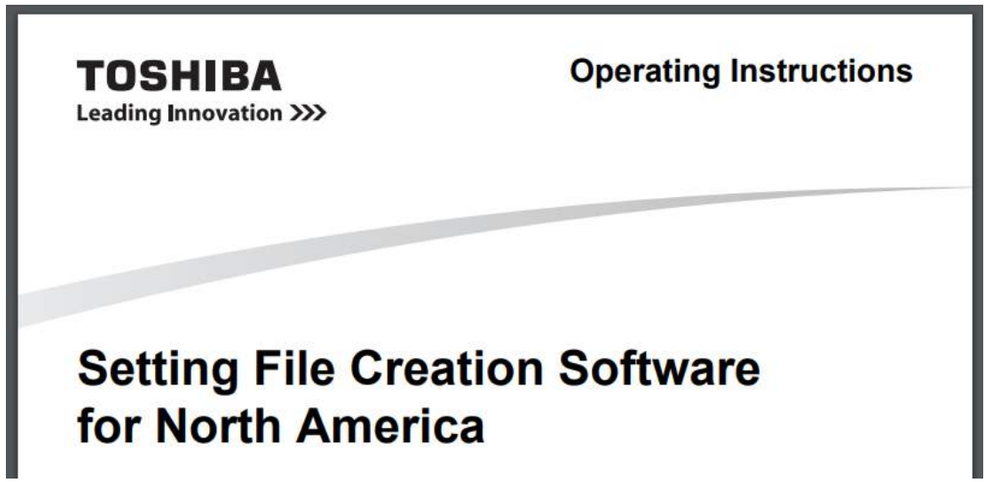
Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL

Before the Touchscreen controller can be used, a setting file must be created and uploaded to the Touchscreen first. Without this file the system can only be controlled by the local remote controllers attached to the fan coils directly.

We at CE are happy to create this file for you, all we would need is the excel spreadsheet of the unit's addresses, models and locations of each. In the event you would like to build the program yourself using the Creation Software, the instructions in the Appendix of this guide will help you do so.

If you run into issues contact your Sales Representative or Tech Support to help with this part of the process.



See Appendix of this guide

Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL (cont.)

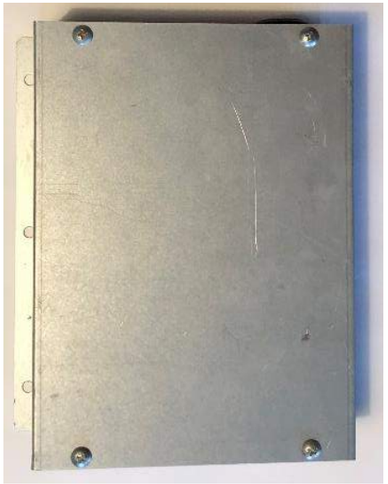
The BMS-CT5120UL TCS-net Relay is only needed if a BMS-CT5120UL Touchscreen is being installed. The Touchscreen will not connect to the VRF system without this relay.

For ease of installation it recommended that they be mounted close to each other, within 3' or less. This way it should not be necessary to extend the RS-485 cable from the factory supplied length.

Touchscreen – BMS-CT5120UL

1. Once the VRF systems has been fully started and tested by local control or by Dyna-Doctor, power down all outdoor units.
2. If not already done during equipment Start Up, set Refrigerant Line Address on each Header outdoor units, 1-28 can be used, 1 is default, do not duplicate. Set via the SW13 & SW14 DIP switches in the Header outdoor unit.
3. Connect the central control Molex connector on all Header outdoor units.

Central Control Molex Connector
Located in Header ODU

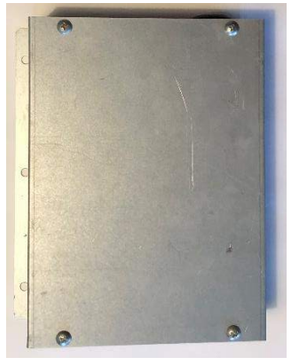


TCS-NET Relay Interface
BMS-IFLSV4UL

Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL (cont.)

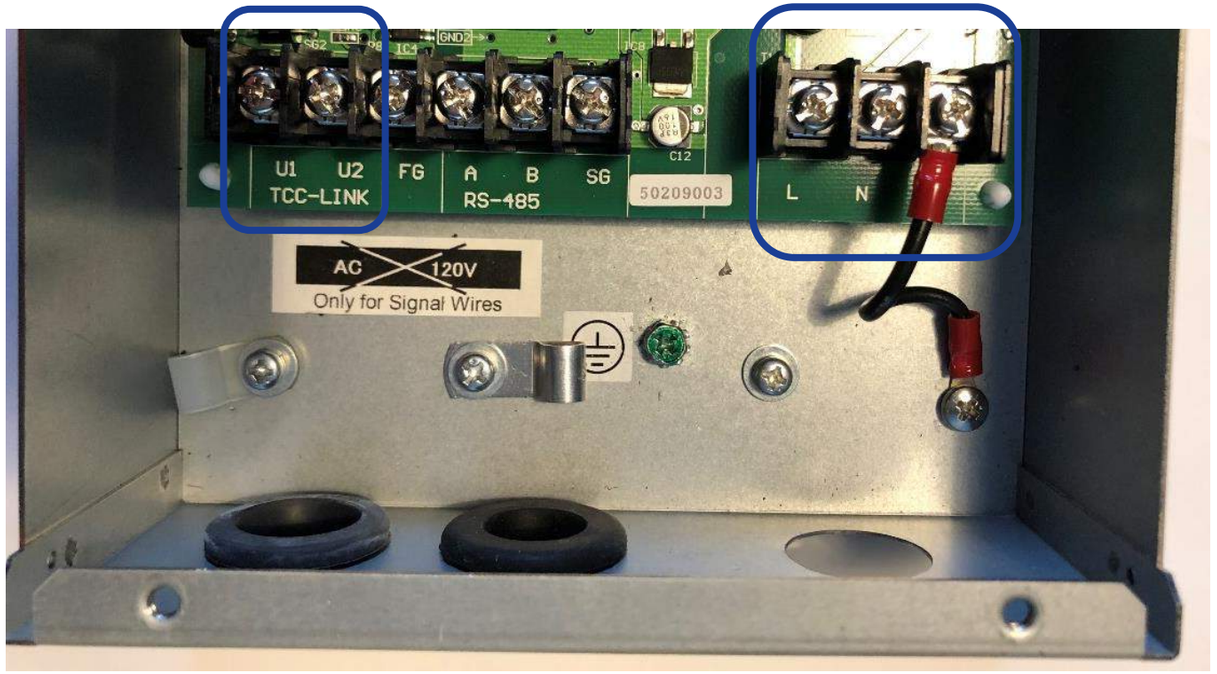
4. Verify 120VAC power is connected to TCS-net Relay L,N & Ground. Do not turn power ON yet.
5. Connect outdoor unit daisy chain to U1 & U2.



TCS-NET Relay Interface
BMS-IFLSV4UL

ODU Daisy Chain U1, U2

Power Connection



Touchscreen & TCS-net Relay Start Up

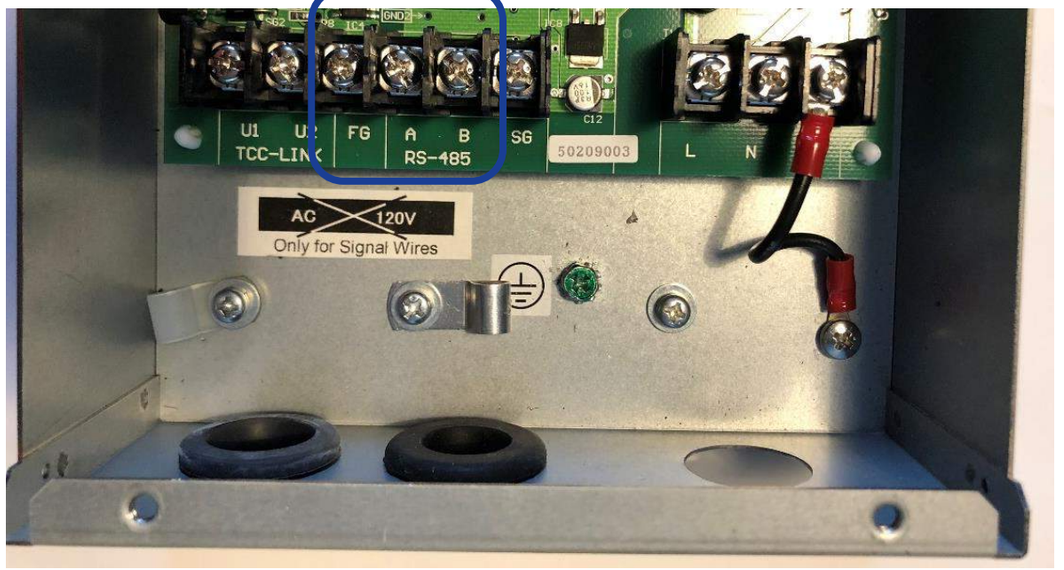
BMS-CT5120UL & BMS-IFLSV4UL (cont.)

6. Connect the supplied RS-485 cable from A, B to serial port on Touchscreen Control.

Touchscreen – BMS-CT5120UL

Connect:
Black to B & White to A

If Ground is present
connect to FG

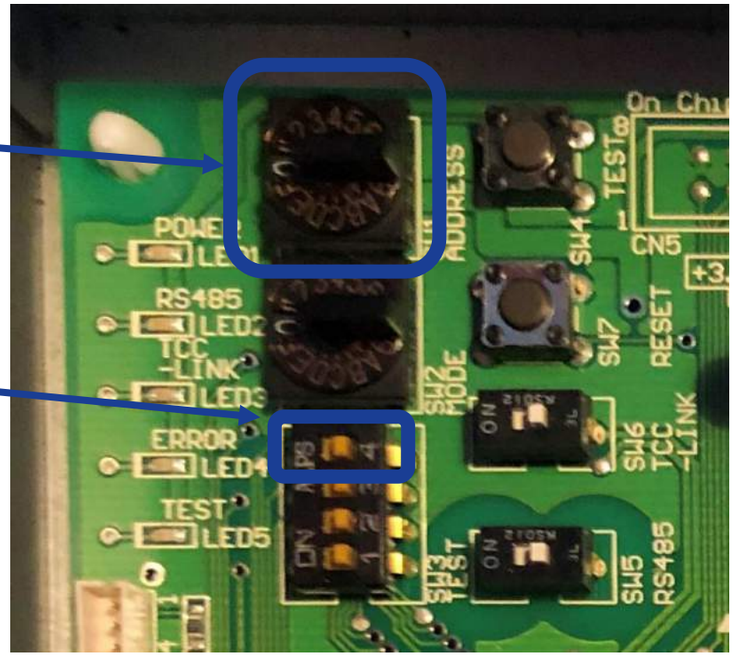


These connections are
polarity sensitive.
Do not mix up.

Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL (cont.)

7. In TCS-net Relay set Rotary switch SW1 to 1
   If more then one TCS-net Relay are used set any other setting or duplicate.
8. If any indoor units do not have a local remote controller, set DIP switch SW3-4 DIP to ON.
   a) If you have any of the following indoor units and they have no local controller follow this step. If all units have local controllers go to next step.
      - Med Static Ducted - MMD-AP---6BHPUL
      - High Wall – MMK-AP---7HPUL
      - High Static Ducted – MMD-AP---6HPUL
      - Underceiling – MMC-AP---8HPUL
      - 4-Way Cassette – MMU-AP---4HPUL



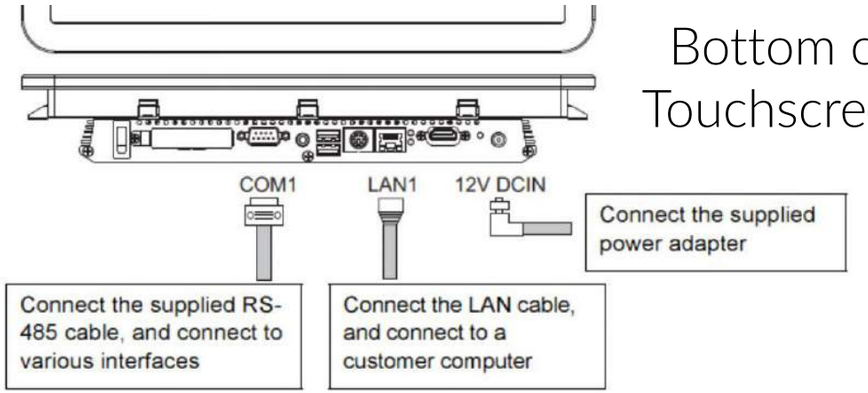
Inside TCS-net Relay

Before power is reapplied to system you will need to power down and temporarily connect a wired remote controller to any indoor unit without a local controller. Power up the indoor unit and set DN Code 103 to 0001. Make sure to recycle power to indoor unit after removing controller. If this is setting is not changed the system will not function correctly. If there are other DN codes or address to set, these can be set at the same time.

Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL (cont.)

9. Do not connect LAN cable at this time.
10. Connect supplied power cord to Touchscreen. The other end has 120 Volt 3-prong plug for a wall outlet.
11. Power up TCS-net Relay, Touchscreen and then outdoor units. Not necessary to power cycle indoor units or flow selector boxes.
12. Go to each local remote controller and set Central Control Address DN Code 03. If manual addressing was done, DN codes 12 & 14 will need to be set as well. This is done by way of the wired control connected to the indoor unit. These must match the new program from File Creation Software.

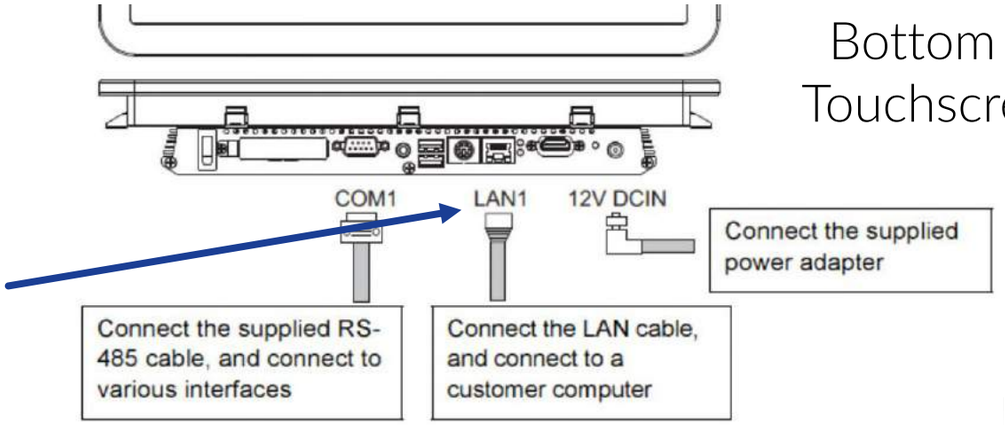


Bottom of Touchscreen

Touchscreen & TCS-net Relay Start Up

BMS-CT5120UL & BMS-IFLSV4UL (end)

13. Plug your computer into the LAN connection.



Bottom of Touchscreen

14. Using the File Creation Software, upload the file to the device.
15. Once file is uploaded, recycle power to touchscreen and disconnect laptop.
16. The Touchscreen display will populate with the system components that were entered in the File Creation tool.
17. We recommend navigating around the Touchscreen display and test the control/operation of the VRF system. Control through the Touchscreen should be verified.

If laptop does not have a network port, a USB to Ethernet adapter can be used.

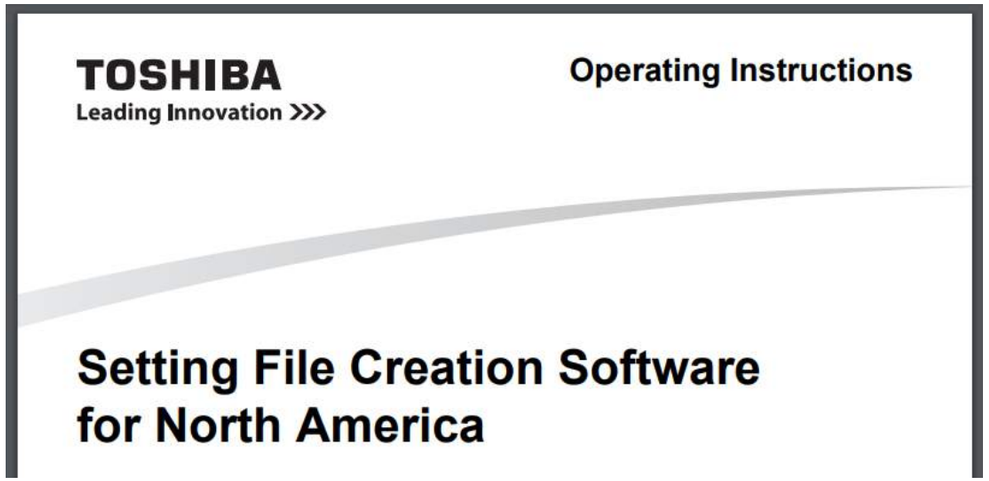
BACnet Start Up

BMS-IFBN640TLUL

BMS-IFBN640TLUL

Before the BACnet can be used, a setting file must be created and uploaded to the BACnet first. Without this file the system can only be controlled by the local remote controllers attached to the fan coils directly.

In the Appendix of this guide there is a section on using the Creation Software. If you run into issues contact your Sales Representative or Tech Support to help with this process.



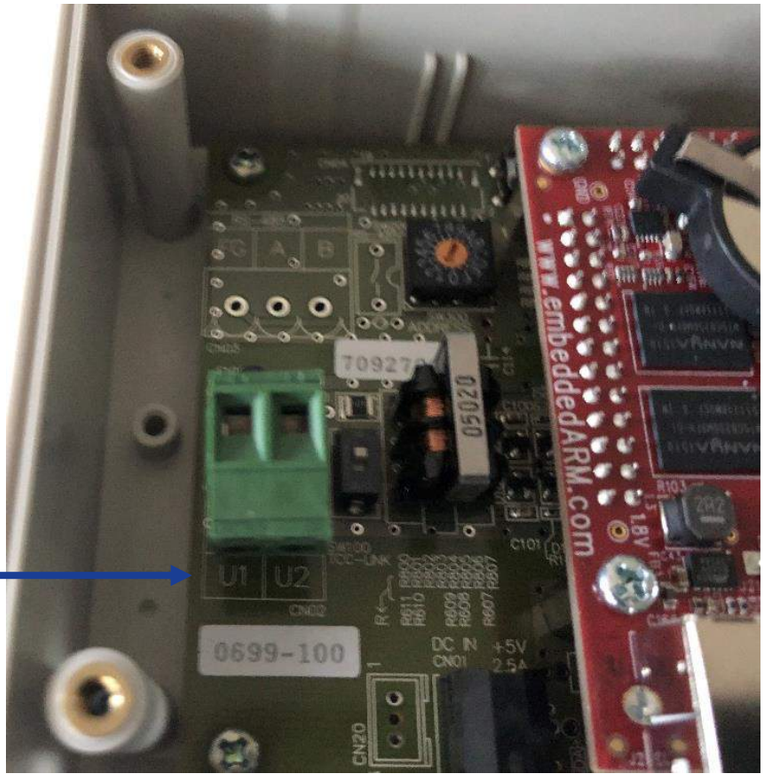
See Appendix of this guide

BACnet Start Up

BMS-IFBN640TLUL (cont.)

BMS-IFBN640TLUL

1. Once the VRF systems has been fully started and tested by local control or by Dyna-Doctor, power down all outdoor units.
2. If not already done during equipment Start Up, set Refrigerant Line Address on each Header outdoor units, 1-28 can be used, 1 is default, do not duplicate. Set via the SW13 & SW14 DIP switches in the Header outdoor unit.
3. Connect the central control Molex connector on all Header outdoor units.
4. Verify outdoor unit daisy chain connected to U1 & U2

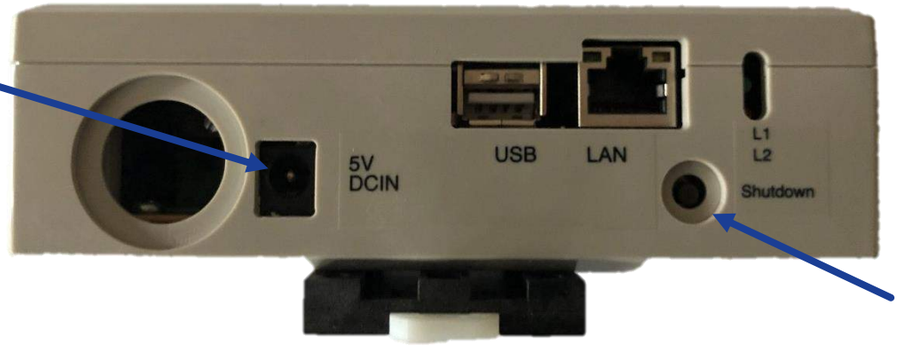


BACnet Start Up

BMS-IFBN640TLUL (cont.)

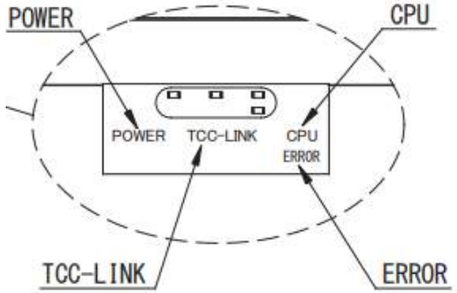
BMS-IFBN640TLUL

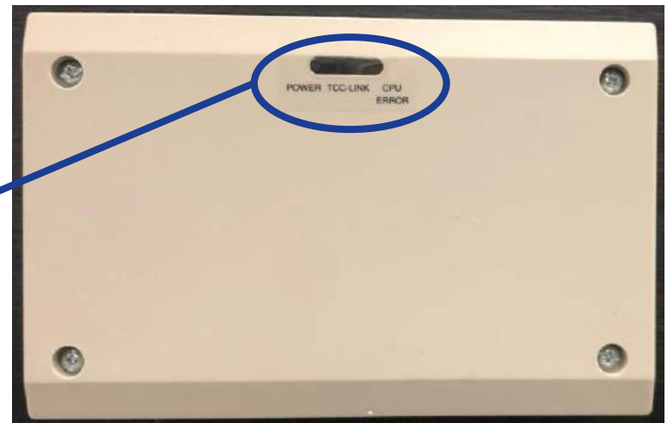
5. Plug in the supplied power adapter in to a 120 VAC power source and in to the 5V DC connection. The power adapter has a 6’ power cord.
6. Do not plug anything in to the LAN connection yet.
7. If not done power up BACnet. Power up all outdoor units. Not necessary to power cycle indoor units or flow selector boxes.



Do Not Randomly Push! Instructions coming

BACnet Lights





BACnet Start Up

BMS-IFBN640TLUL (cont.)

BMS-IFBN640TLUL

8. If you have any of the following indoor units and they have no local controller follow this step. If all units have local controllers go to next step.
   - Med Static Ducted - MMD-AP---6BHPUL
   - High Wall – MMK-AP---7HPUL
   - High Static Ducted – MMD-AP---6HPUL
   - Underceiling – MMC-AP---8HPUL
   - 4-Way Cassette – MMU-AP---4HPUL

   Before power is reapplied to system you will need to power down and temporarily connect a wired remote controller to any indoor unit without a local controller. Power up the indoor unit and set DN Code 103 to 0001. Make sure to recycle power to indoor unit after removing controller. If this is setting is not changed the system will not function correctly. If there are other DN codes or address to set, these can be set at the same time.

9. Go to each local remote controller and set Central Control Address DN Code 03. If manual addressing was done, DN codes 12 & 14 will need to be set as well. This is done by way of the wired control connected to the indoor unit. These must match the new program from File Creation Software.

BACnet Start Up

BMS-IFBN640TLUL (end)

10. Plug your computer into the LAN connection.

11. Using the File Creation Software Upload the file to the device.
12. Once file is uploaded, recycle power to device and disconnect laptop.
13. Once Red & Green lights are blinking back and forth press the Shutdown button until Green light is ON solid, then release. The BACnet will now search for the VRF system components. Prior to pressing the button if the lights never blink back and forth and both the Red and Green lights remain ON solid, this is a indication of a wiring issue.
14. Once search is complete, est. 15 to 20 min, The Front End or BMS Integrator onsite should now be able to search for the equipment through their system. Share the manuals with the Integrator, all the info they need is in them.

BMS-IFBN640TLUL

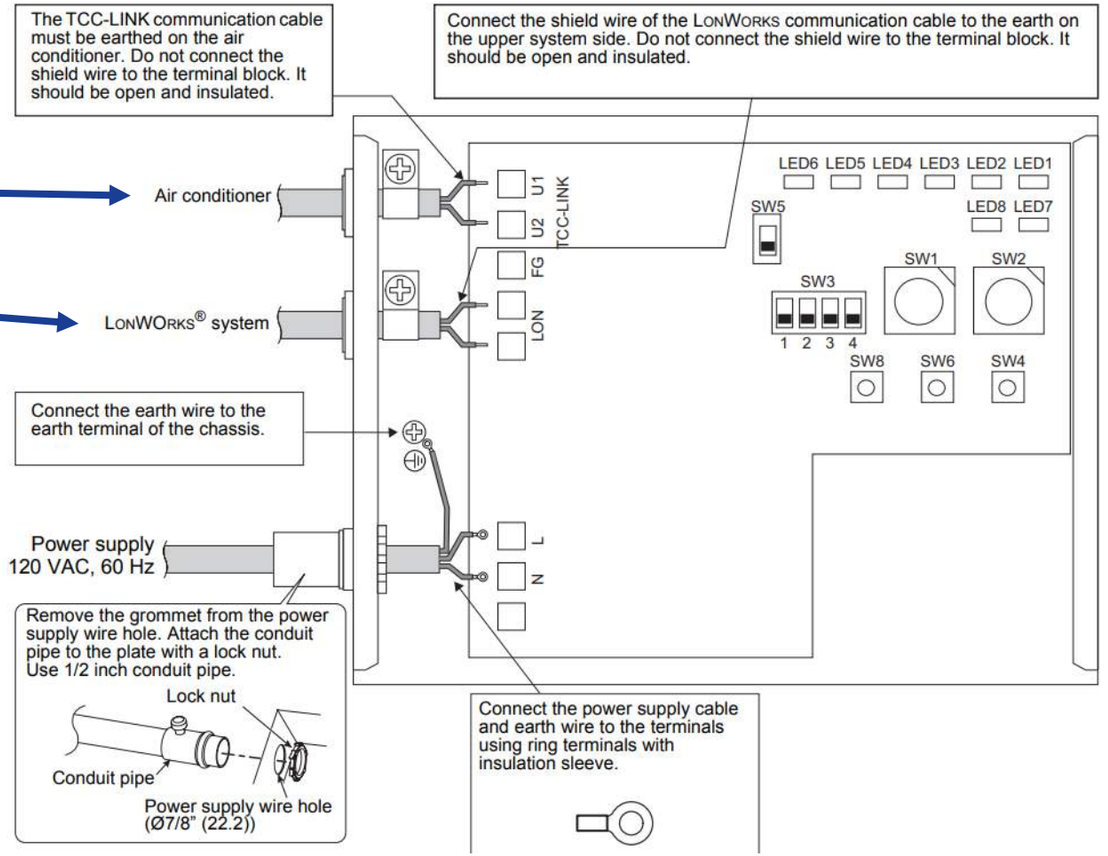
If laptop does not have a network port, a USB to Ethernet adapter can be used.

LonWorks Start Up

TCB-IFLN642TLUL

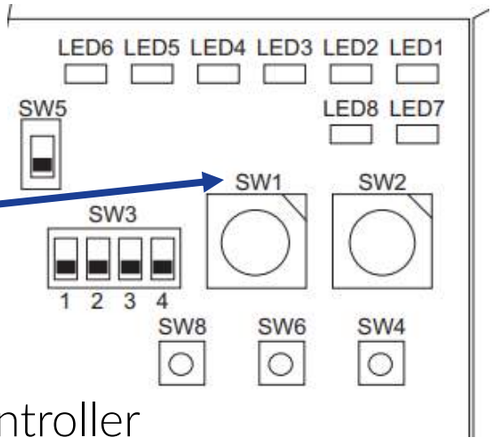
TCB-IFLN642TLUL

1. Once the VRF systems has been fully started and tested by local control or by Dyna-Doctor. Power down all outdoor units.
2. If not already done during equipment Start Up, set Refrigerant Line Address on each Header outdoor units, 1-28 can be used, 1 is default, do not duplicate. Set via the SW13 & SW14 DIP switches in the Header outdoor unit.
3. Connect the central control Molex connector on all Header outdoor units.
4. Verify outdoor unit daisy chain connected to U1 & U2.
5. Connect Lon cable.
6. Hard wire 120 Volt power supply. Do not power up yet.



LonWorks Start Up

TCB-IFLN642TLUL (cont.)



TCB-IFLN642TLUL

7. Set SW1 & SW2 based on the amount on indoor units connected.

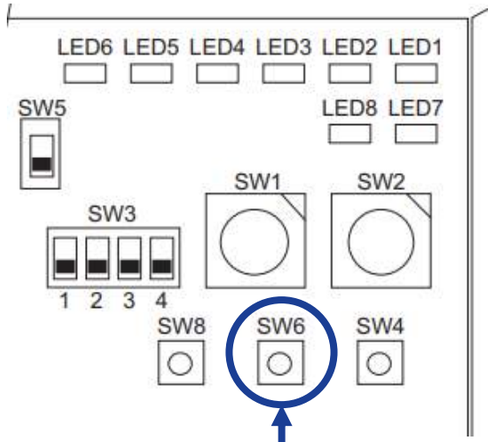
8. If you have any of the following indoor units and they have no local controller follow this step. If all units have local controllers go to next step.
   - Med Static Ducted - MMD-AP---6BHPUL
   - High Wall – MMK-AP---7HPUL
   - High Static Ducted – MMD-AP---6HPUL
   - Underceiling – MMC-AP---8HPUL
   - 4-Way Cassette – MMU-AP---4HPUL

   Before power is reapplied to system you will need to power down and temporarily connect a wired remote controller to any indoor unit without a local controller. Power up the indoor unit and set DN Code 103 to 0001. Make sure to recycle power to indoor unit after removing controller. If this is setting is not changed the system will not function correctly. If there are other DN codes or address to set, these can be set at the same time.

Indoor unit central control address	SW1	SW2	Indoor unit central control address	SW1	SW2	Indoor unit central control address	SW1	SW2	Indoor unit central control address	SW1	SW2
1	0	0	17	1	0	33	2	0	49	3	0
2	0	1	18	1	1	34	2	1	50	3	1
3	0	2	19	1	2	35	2	2	51	3	2
4	0	3	20	1	3	36	2	3	52	3	3
5	0	4	21	1	4	37	2	4	53	3	4
6	0	5	22	1	5	38	2	5	54	3	5
7	0	6	23	1	6	39	2	6	55	3	6
8	0	7	24	1	7	40	2	7	56	3	7
9	0	8	25	1	8	41	2	8	57	3	8
10	0	9	26	1	9	42	2	9	58	3	9
11	0	A	27	1	A	43	2	A	59	3	A
12	0	B	28	1	B	44	2	B	60	3	B
13	0	C	29	1	C	45	2	C	61	3	C
14	0	D	30	1	D	46	2	D	62	3	D
15	0	E	31	1	E	47	2	E	63	3	E
16	0	F	32	1	F	48	2	F	64	3	F

LonWorks Start Up

TCB-IFLN642TLUL (end)



TCB-IFLN642TLUL

9. Power up LonWorks. Power up all outdoor units. Not necessary to power cycle indoor units or flow selector boxes.

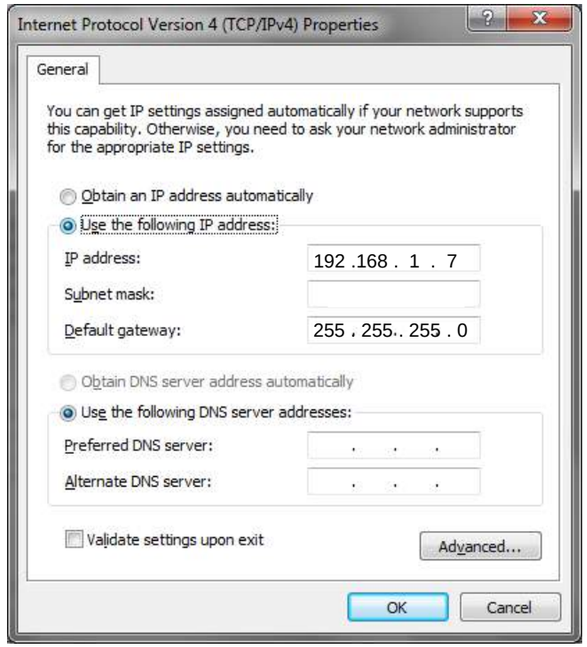
10. Go to each local remote controller and set Central Control Address DN Code 03. Also check Line Address DN Code 12, this will need to match the SW13 & SW14 Line Address setting in Header outdoor unit.

11. After all indoor unit have been addressed, press SW6 to initiate LonWorks.

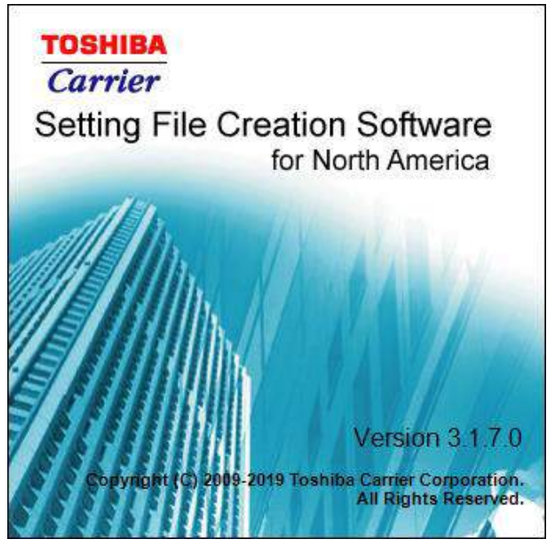
12. The Front End or BMS Integrator onsite should now be able to search for equipment through their system. Share the manuals with the Integrator, all the info they need is in them.

Section – 8
Appendix

Items covered in Section 8 of this guide:



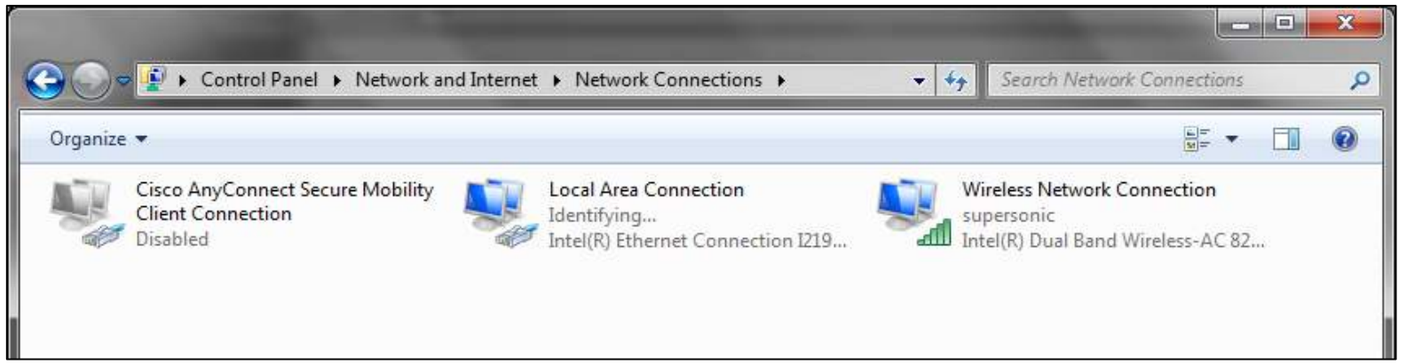
How to change your IP Address on your computer



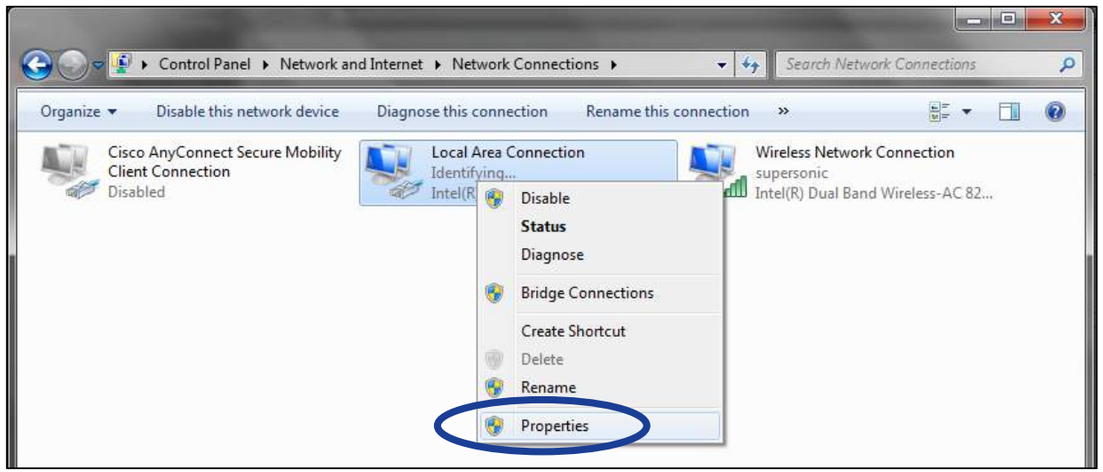
File Creation Software

How to **change** your **IP Address**

1. How to change laptop's network adapter's IP address
   - Not all computers are the same, yours may differ slightly from the below instructions.
2. Open the Network Connections window.

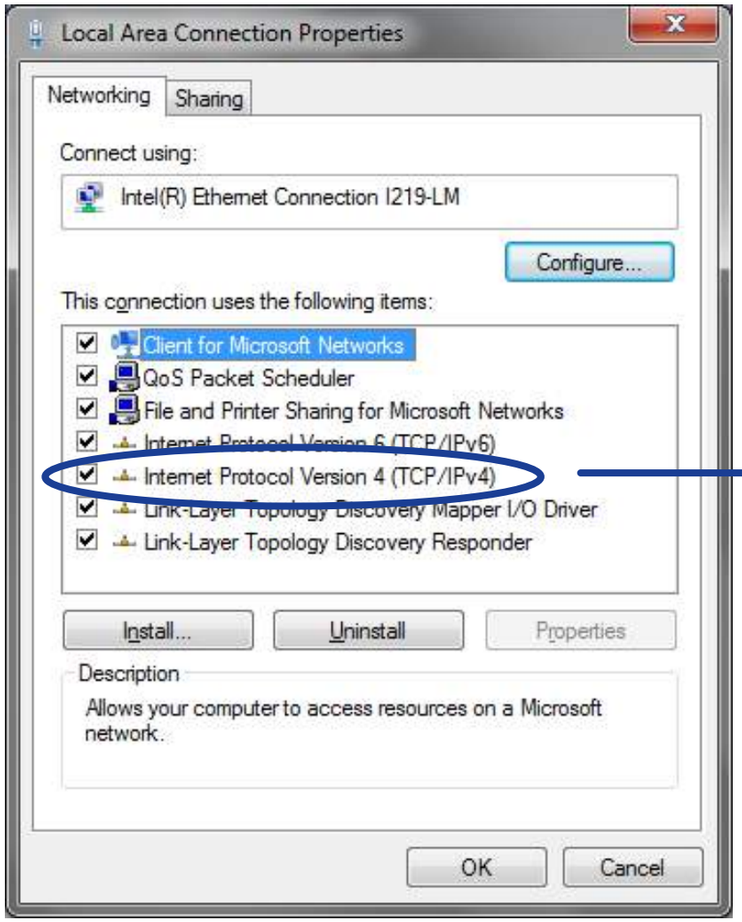


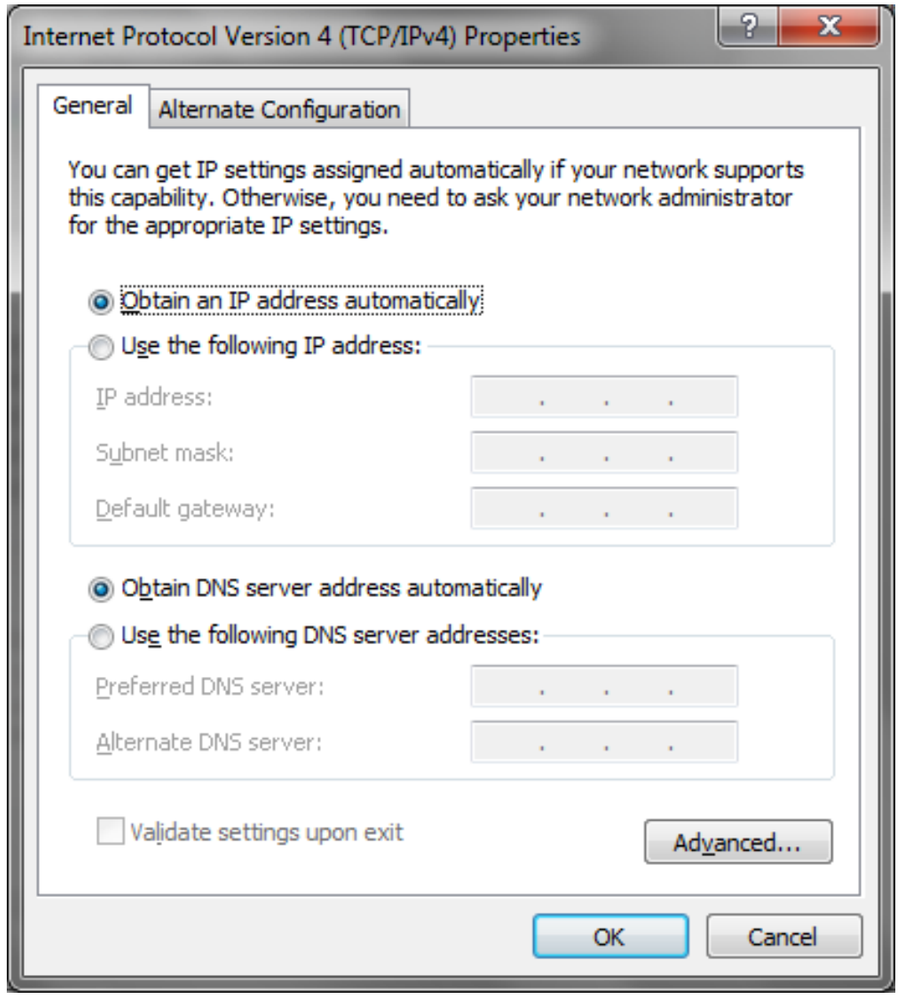
3. Right click on adapter for Local Connection. Click on Properties.



How to **change** your **IP Address**

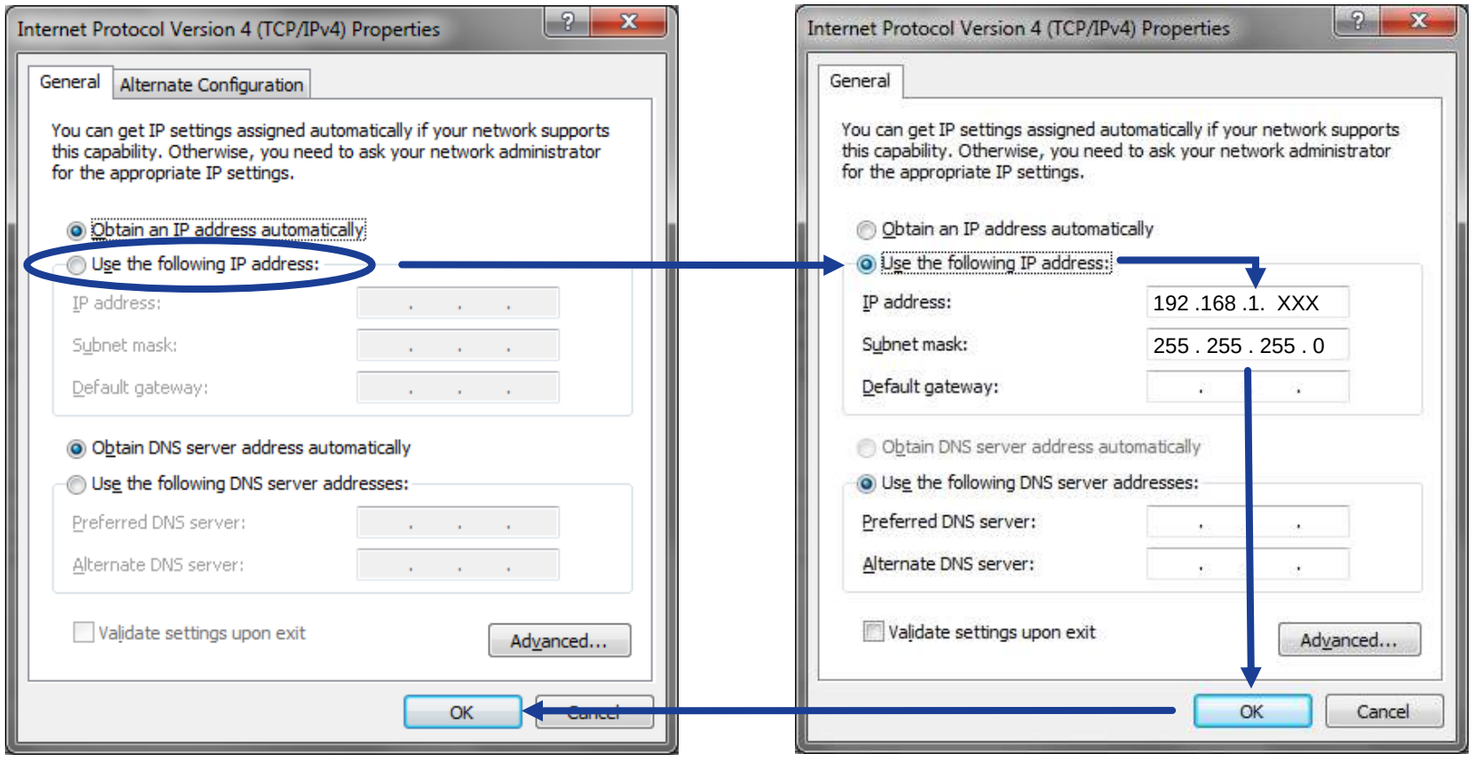
4. Double click on TCP/IPv4





How to **change** your **IP Address** (end)

5. Select “Use the following IP address”
   - Enter the IP needed, then click within the Subnet Mask fields, these fields should auto populate with 255.255.255.0 if not enter manually.
   - Click “OK” and “OK” again to apply changes and exit.



Attention:
Make sure to change the IP back to “Obtain an IP automatically” once the task at hand is completed.

File Creation Software

Toshiba Carrier's Touchscreen and BACnet devices can only used after a file is created and uploaded using the "Setting File Creation Software".

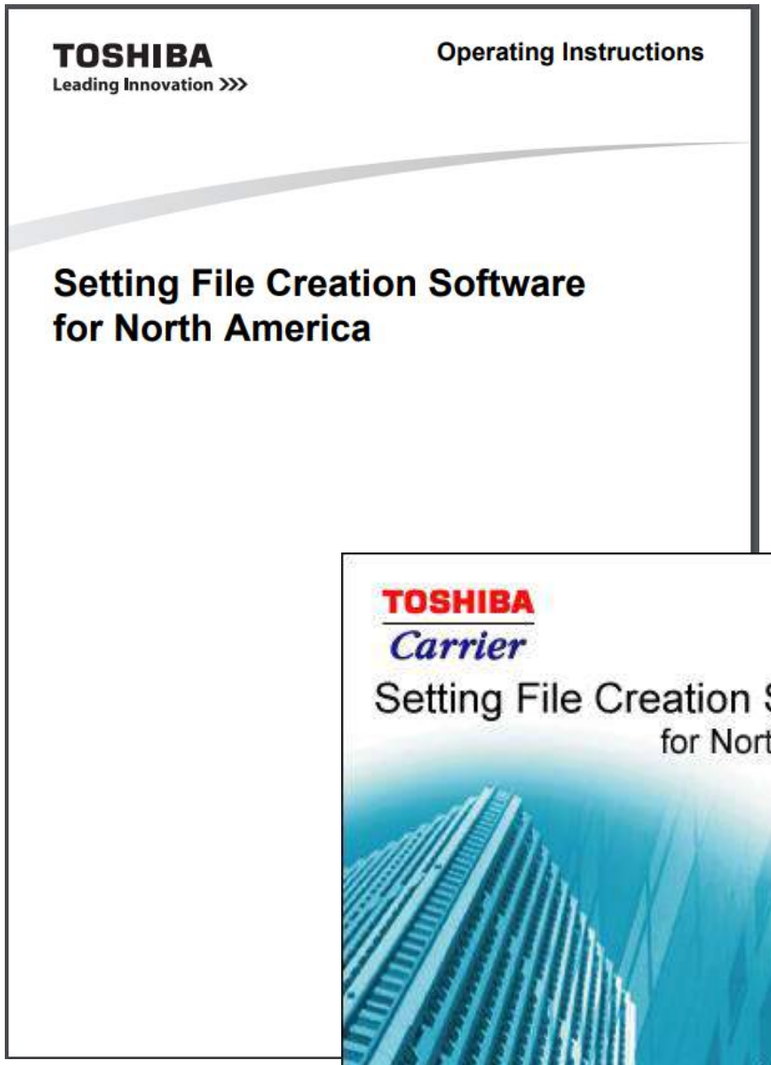
To obtain a copy of the software please contact your Sales Representative or CE Tech Support.

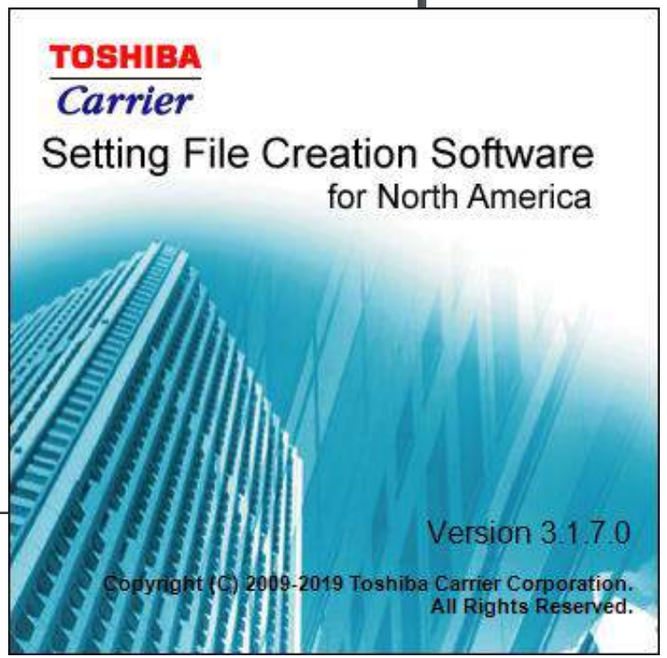
If you have attended CE Northeast VRF Training, there is a copy on the USB drive handout you received for attending class.

This next section will give a basic overview of the software. For detailed instructions we recommend you read through the Operating Instructions for the software, also including on the USB handout or on HVACPartners.com.

The steps are basically the same for both the Touchscreen or the BACnet.

You will need your list of room names and addresses set during the equipment Start Up.





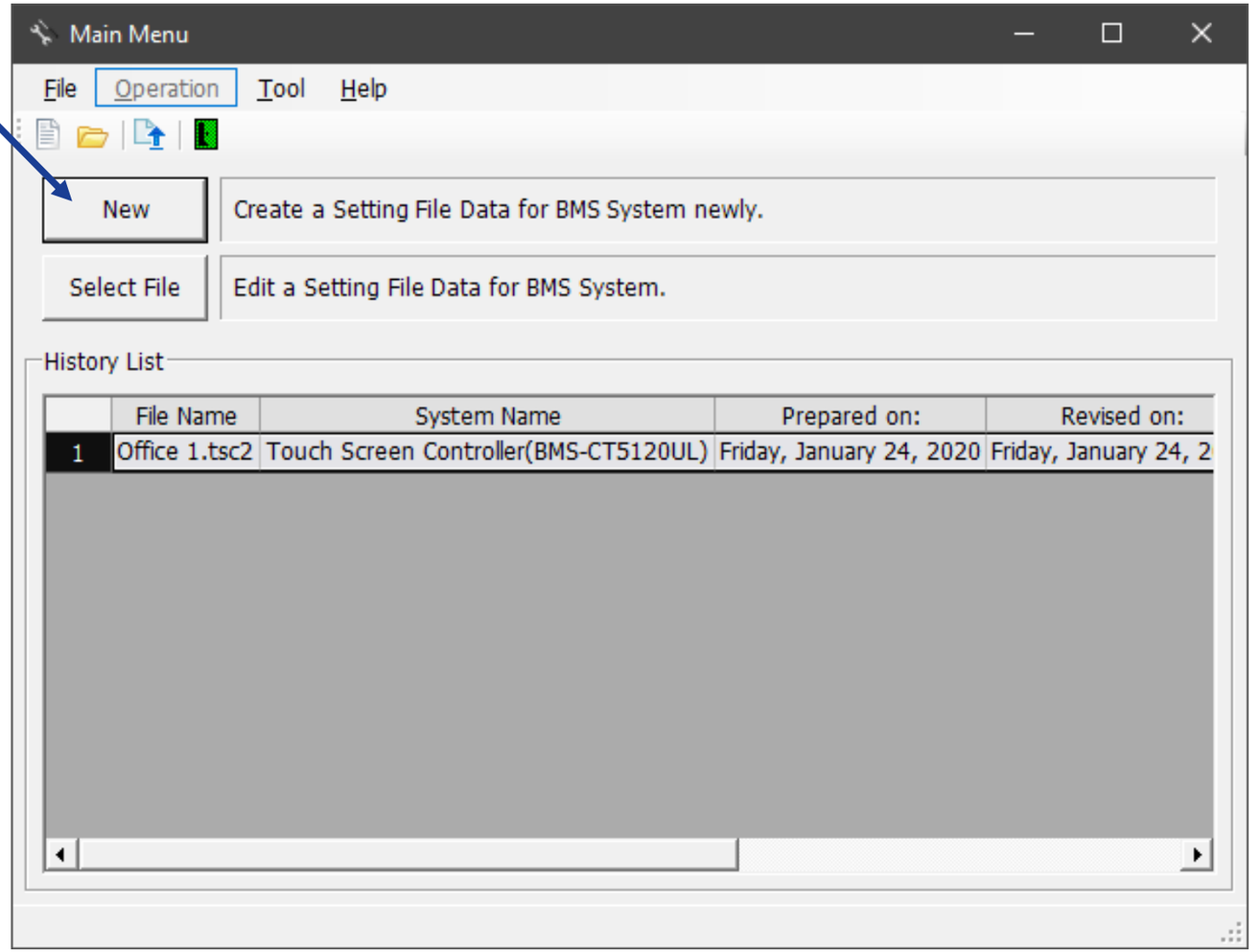
Attention:
Window 7 or newer
Office 2003 or newer

File Creation Software

1. Install the software on the laptop and confirm the below screen appears when the program is started.
2. Once open, select “New”

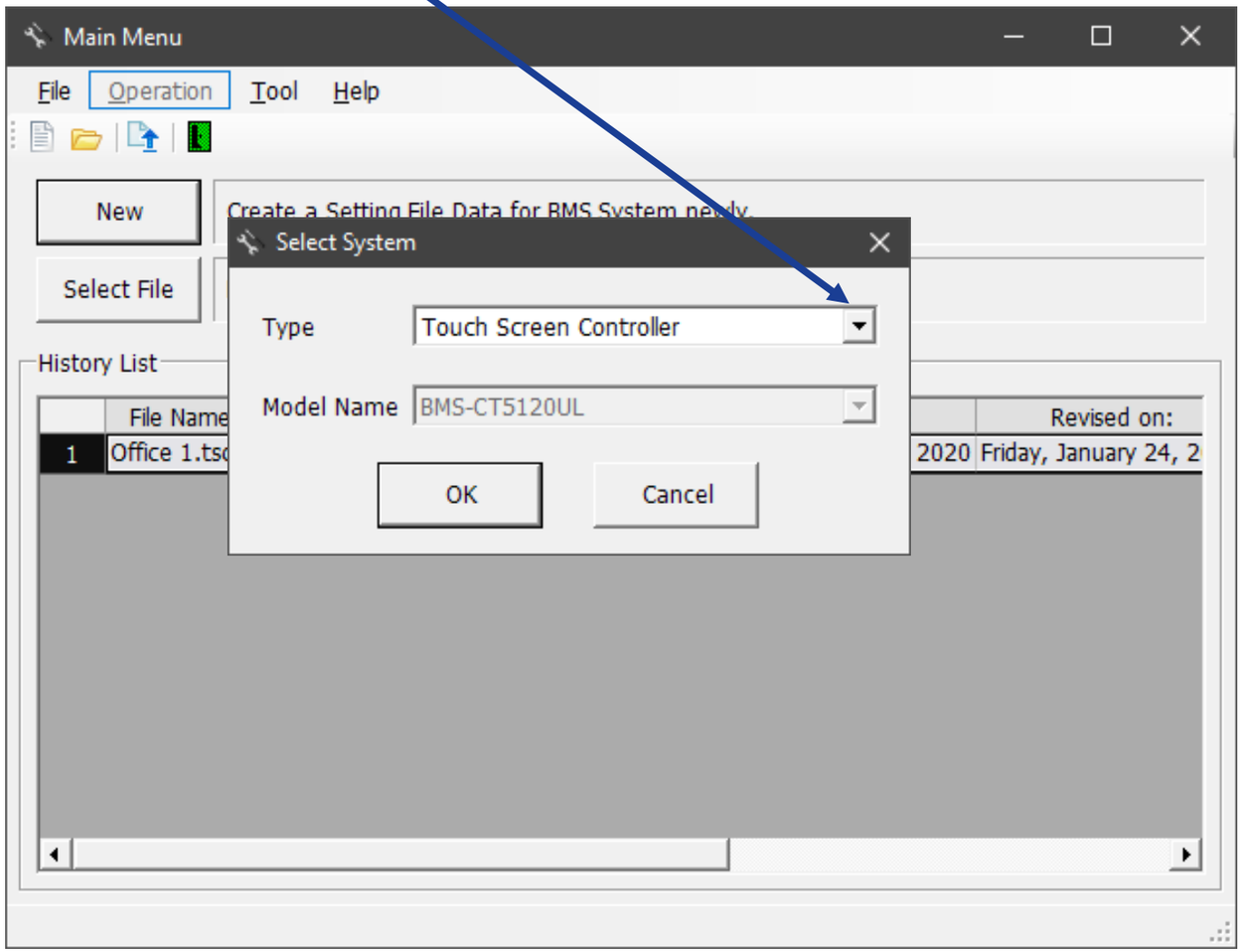
We recommend saving your file as you work on it. The final will need to be saved prior to uploading to the device.

Don’t forget where you saved it!



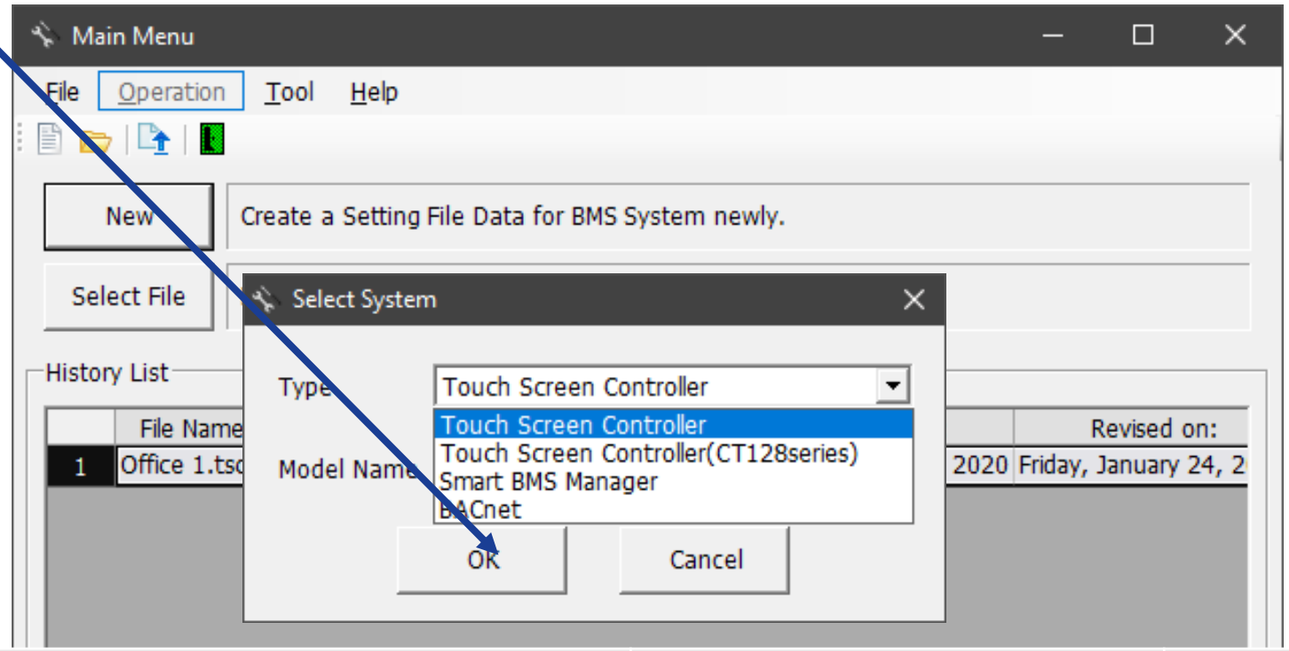
File Creation Software

2. A second window opens and lists the default value Touchscreen is normally shown.
   If what is listed is not correct, click the down drop and select the correct device.



File Creation Software

3. Once selected, click “OK”. There will be a slight pause and a new window will open.



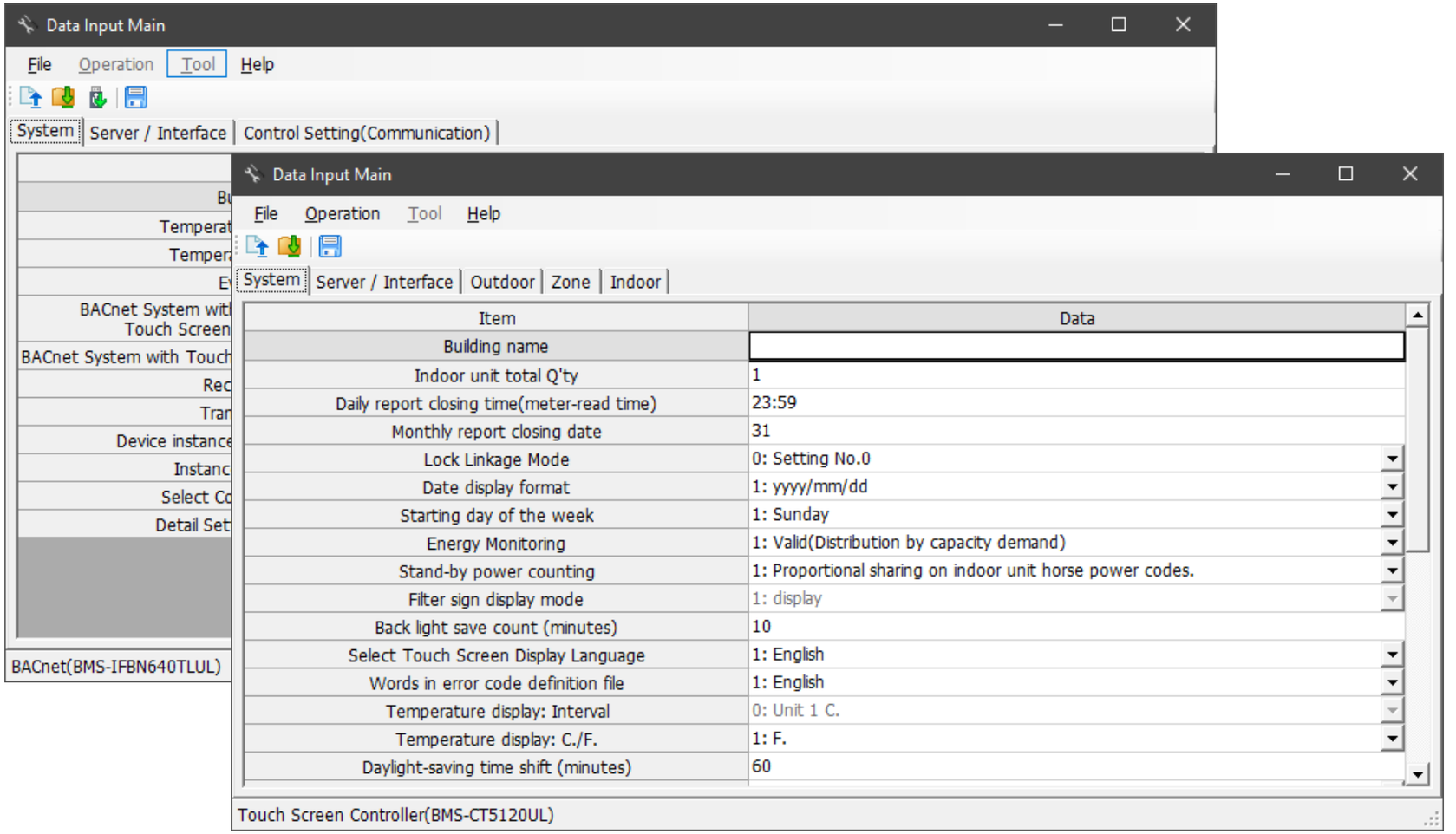
Select One

Touch Screen Controller	BMS-CT5120UL	USA/Can Touchscreen
Touch Screen Controller (CT128series)	NOT Used	NOT Used
Smart BMS Manager	BMS-SM1280HTLUL	USA/Can Smart Manager
BACnet	BMS-IFBN640TLUL	USA/Can BACnet

NOTE: Smart Manger not directly covered in this guide, set up is similar to Touchscreen.

File Creation Software

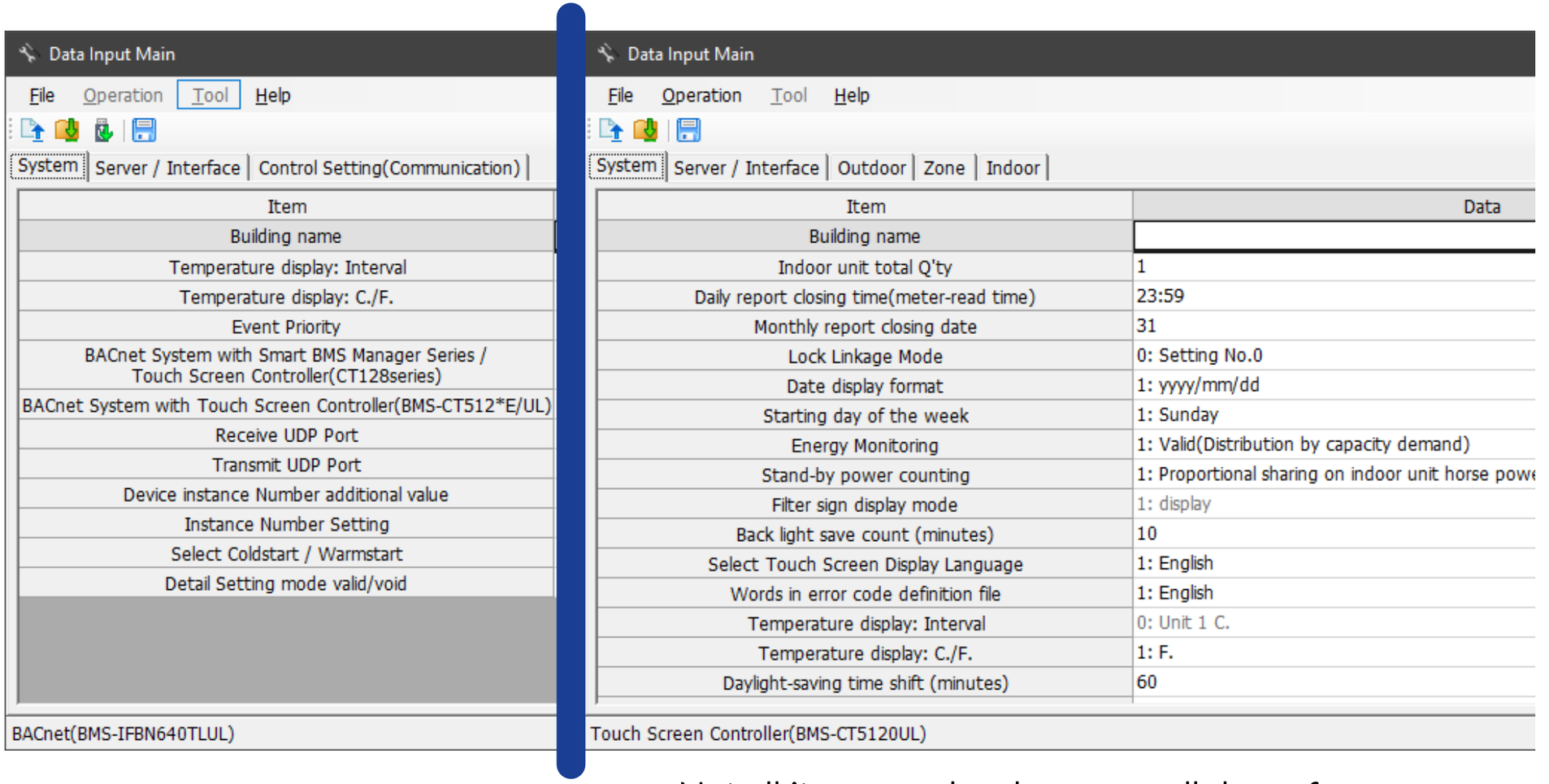
4. Depending on the control selected, one of the following two screen will appear.
   Both have System and Server / Interface tabs.
   The other non-common tabs are control specific.



Model shown at bottom of screen

File Creation Software

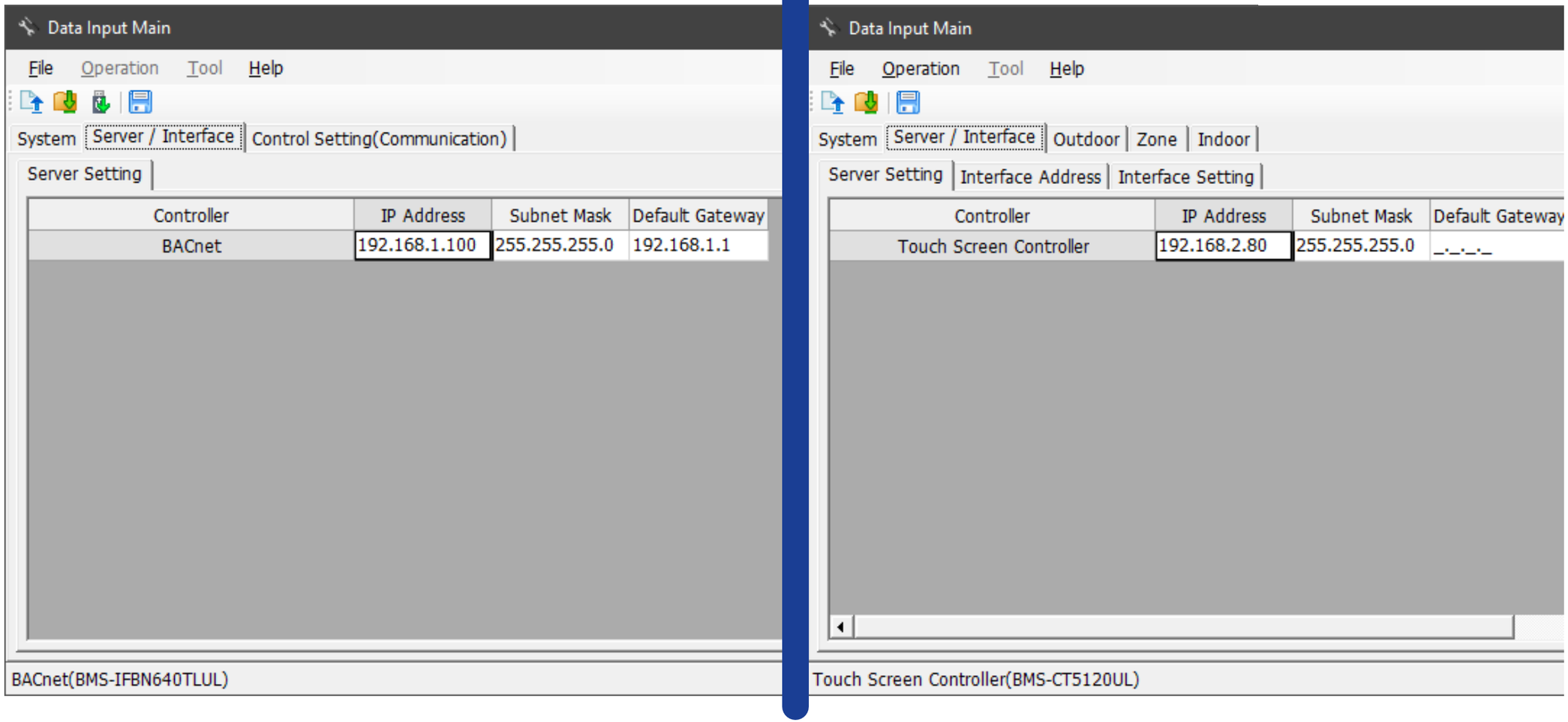
5. Details of each tab will vary by controller as well.
   Fill in or change fields related to your system/application.
6. Continue to Server / Interface tab.



Not all items can be shown, scroll down for more

File Creation Software

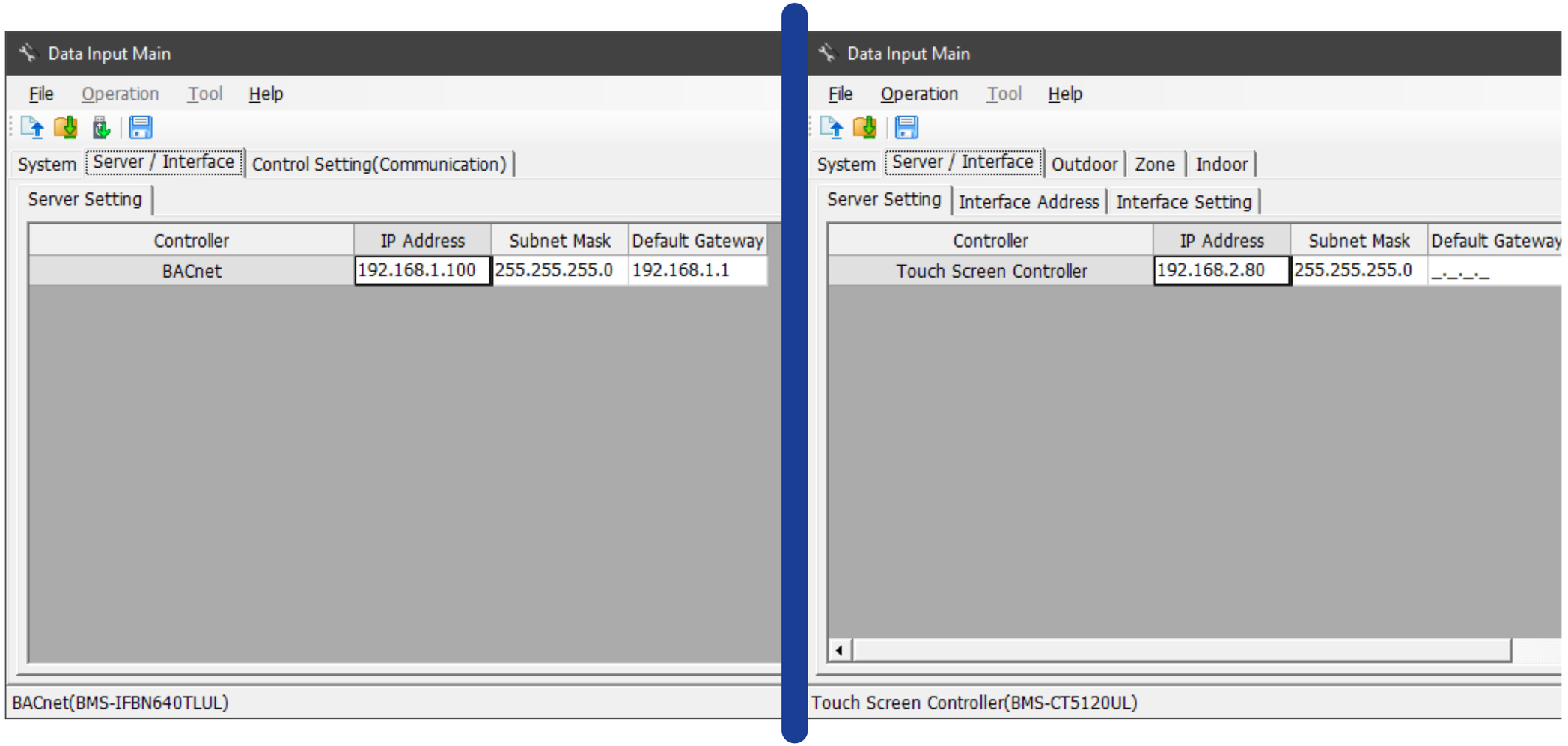
7. The Server tab is where the Static IP address and other network values are entered. Enter the IP, Subnet Mask & Default Gateway (if provided)



File Creation Software

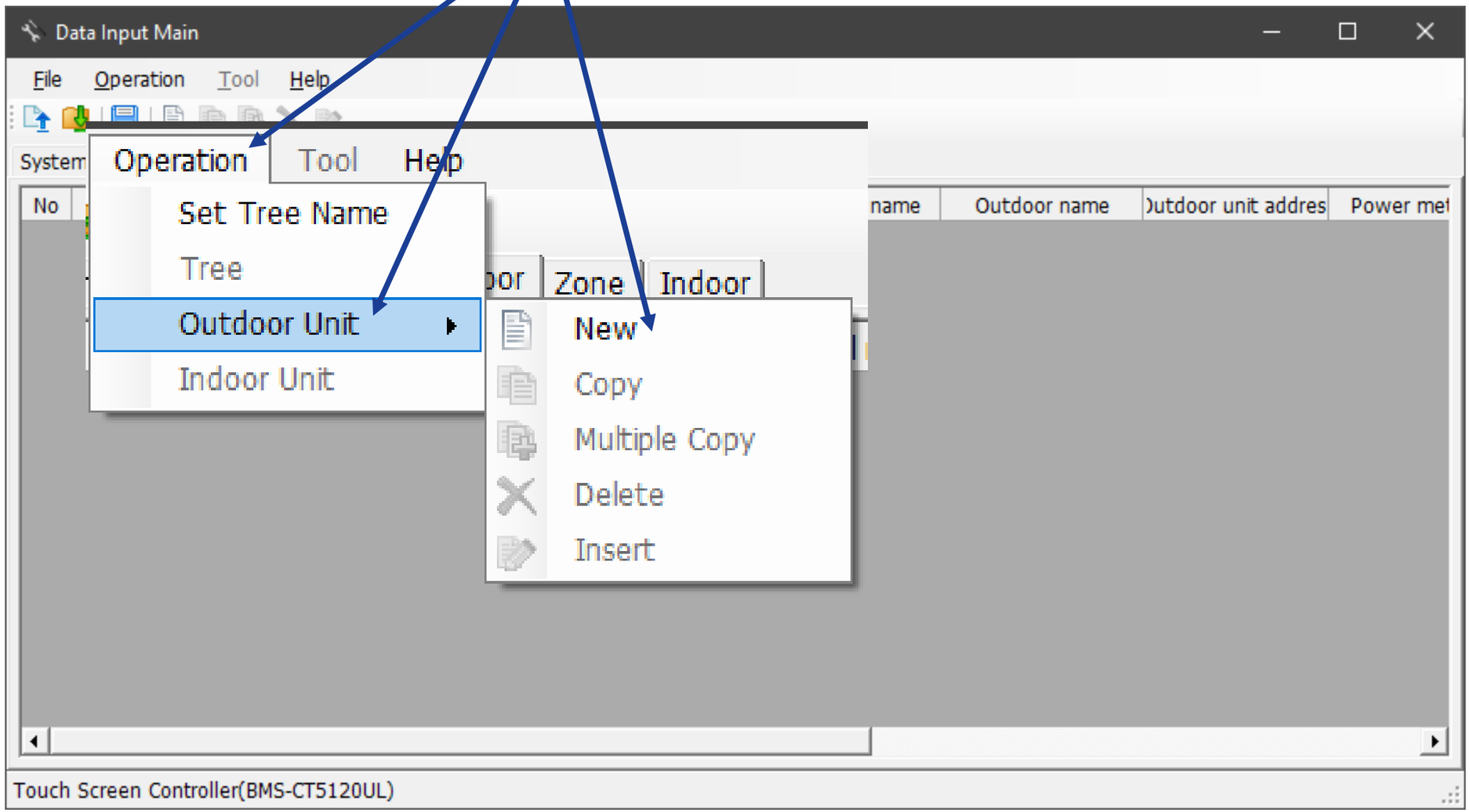
8. BACnet is done. The third tab is not used.

For BACnet installations go to step 18, for Touchscreen continue to Outdoor tab.



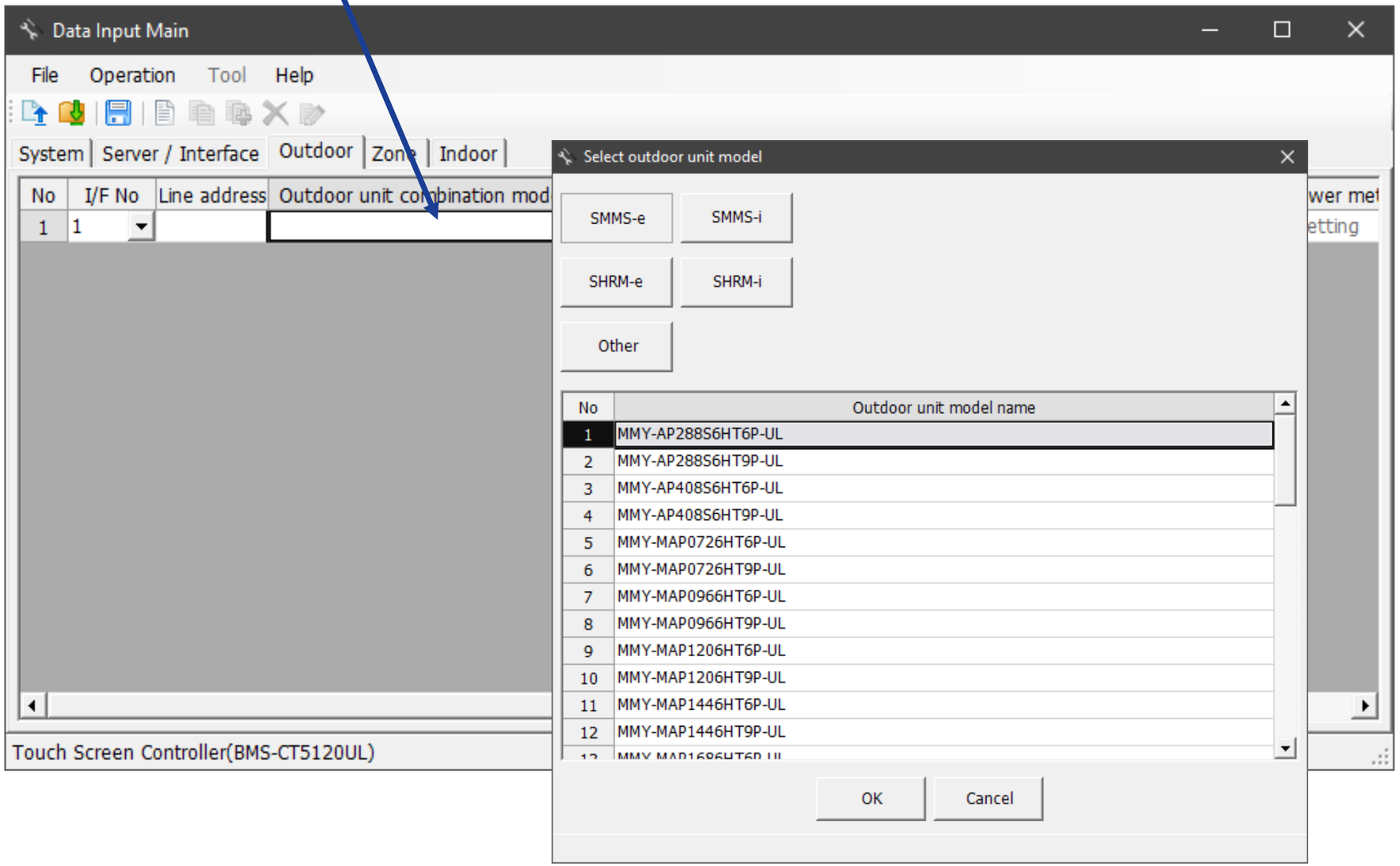
File Creation Software

9. First you will add the Outdoor unit(s), Select “Operation” then “Outdoor Unit” then “New”



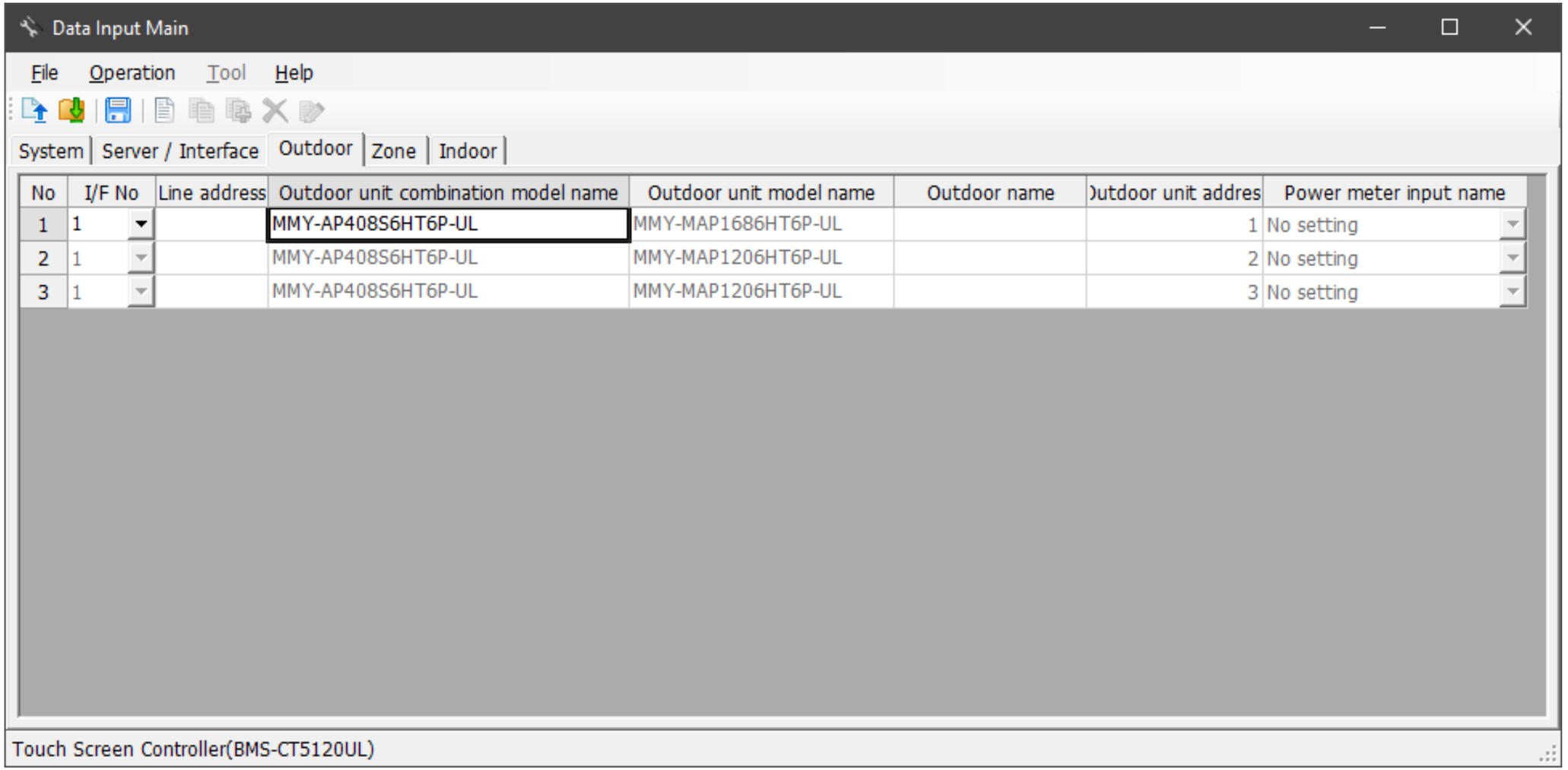
File Creation Software

10. Double click in the Outdoor Unit box, a second window will appear, select the outdoor unit.



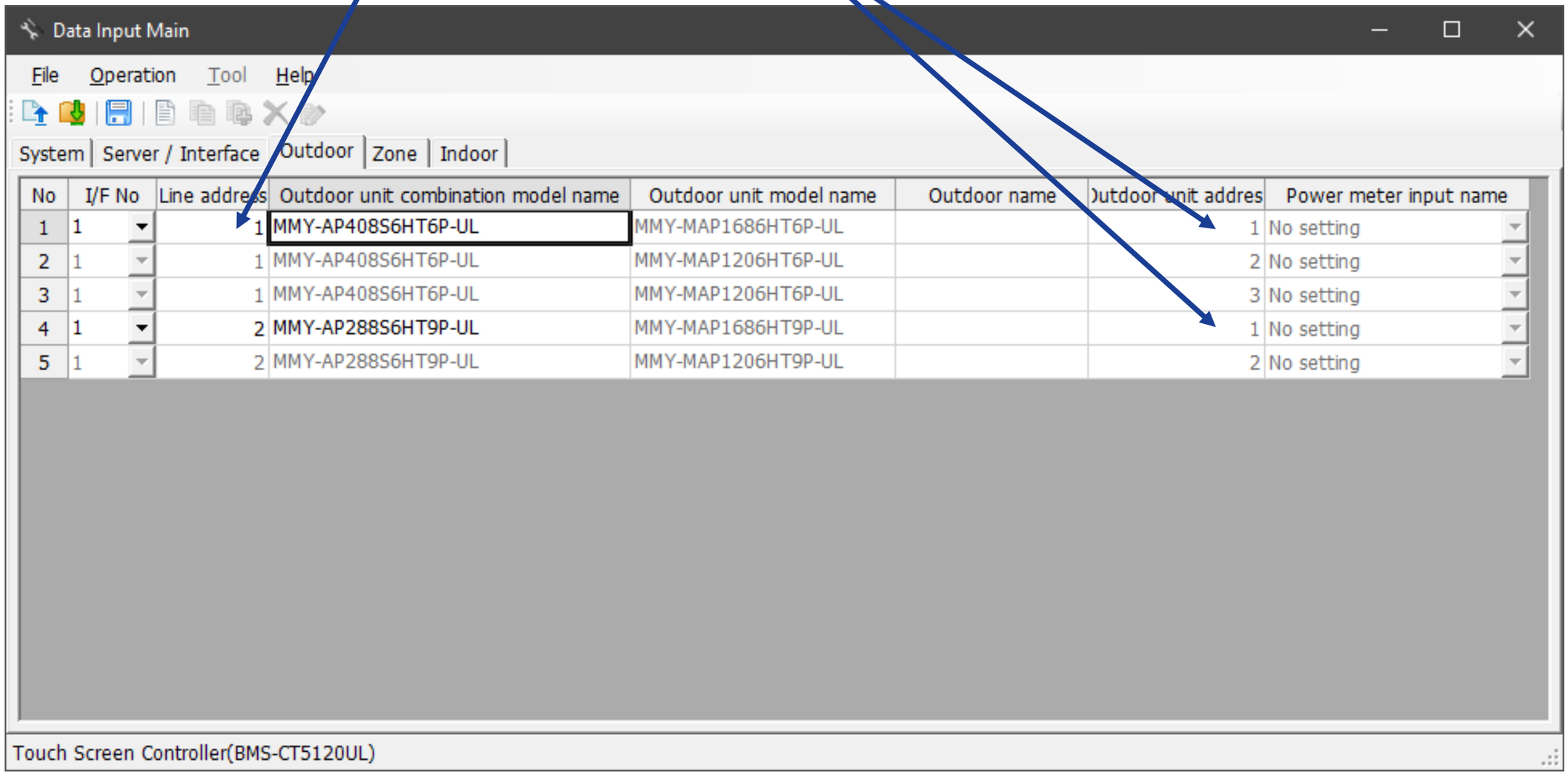
File Creation Software

11. If system has multiple modules, the software will self popular the required models.



File Creation Software

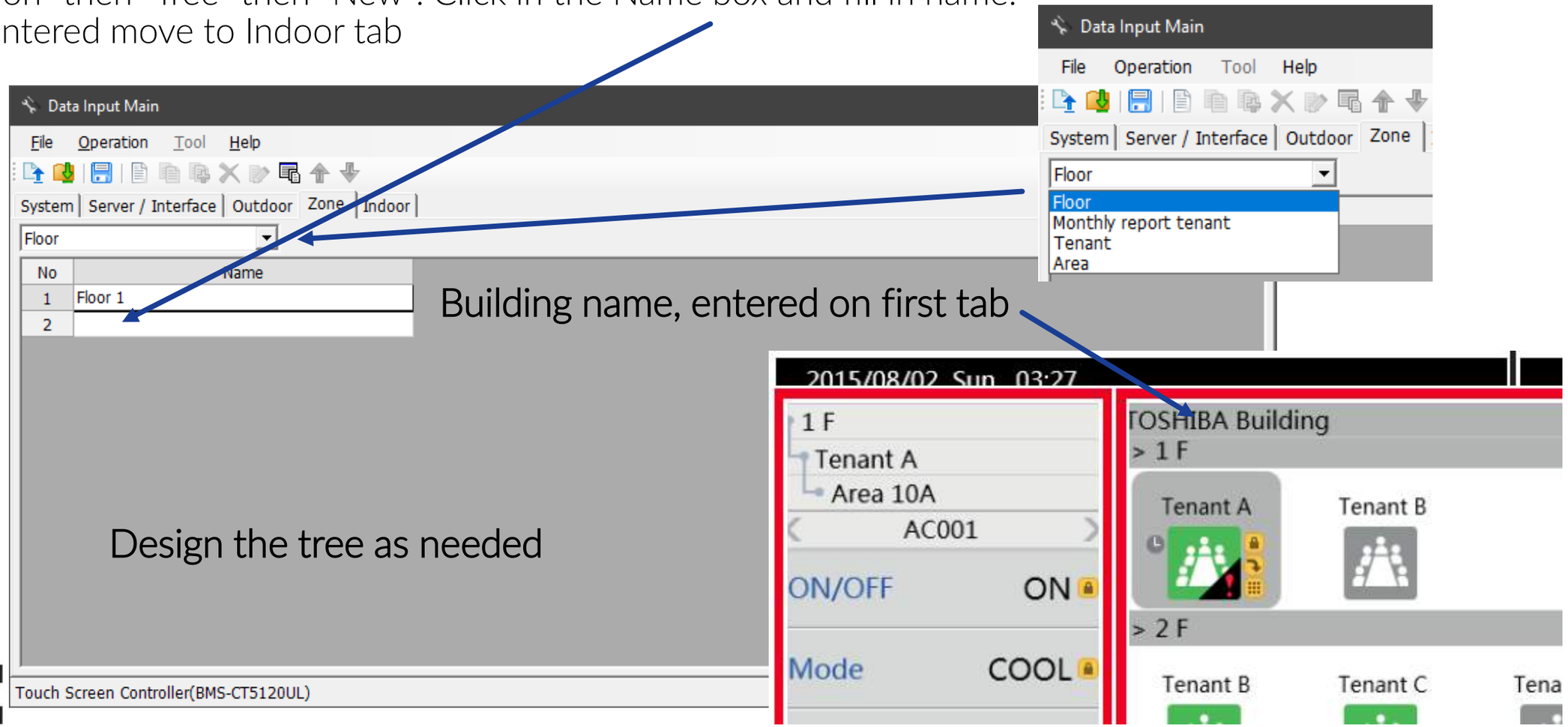
12. Add all systems, be sure to set Line address for each number 1 unit.



File Creation Software

13. When all ODU's are entered go to the Zone tab. This optional setting will divide up the IDU's on the Touchscreen's display. Names such as Area or Floor 1, Floor 2 and so on, or pick another.

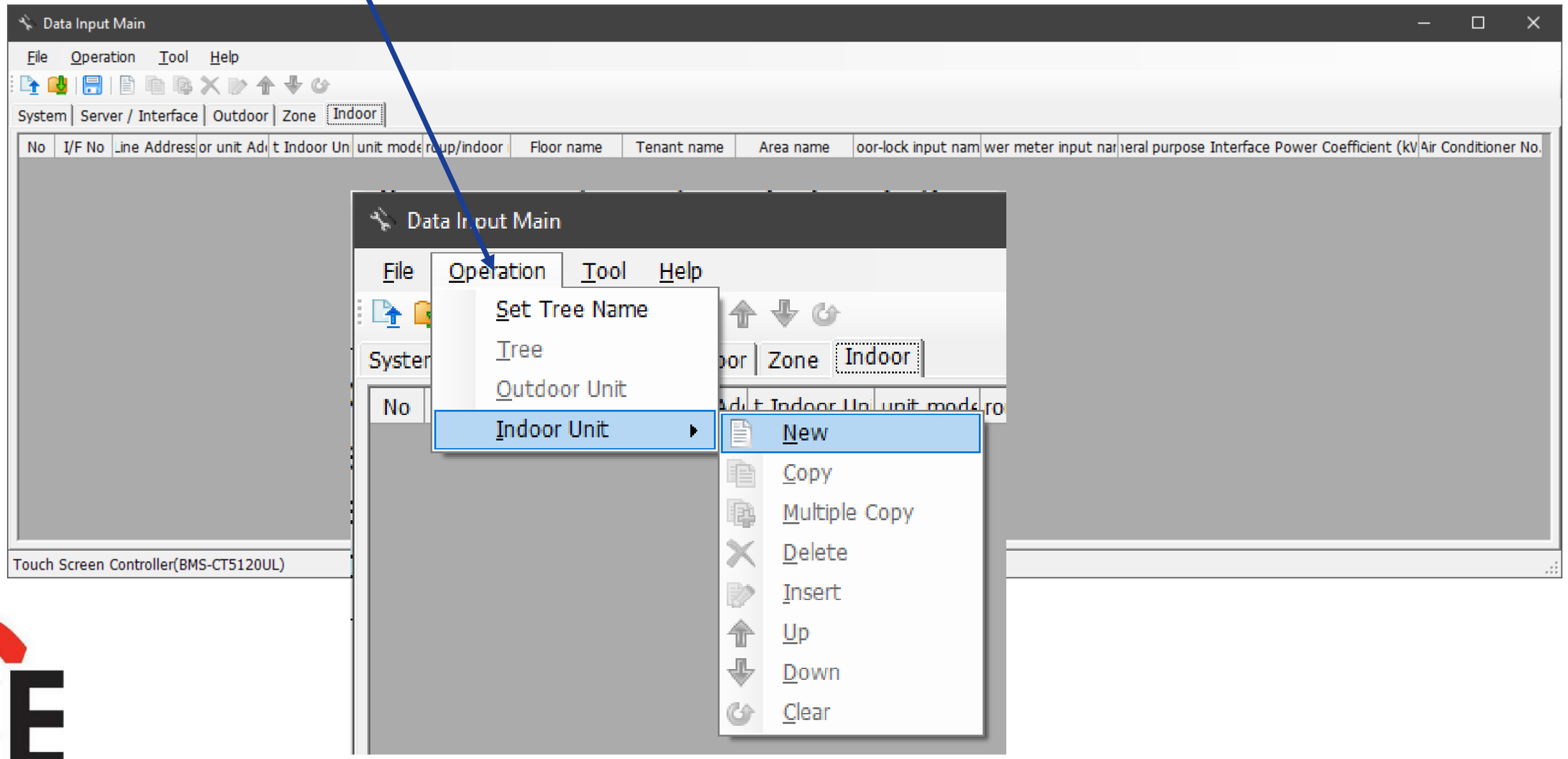
Click "Operation" then "Tree" then "New". Click in the Name box and fill in name.
Once all are entered move to Indoor tab



Partial view of Touchscreen Display

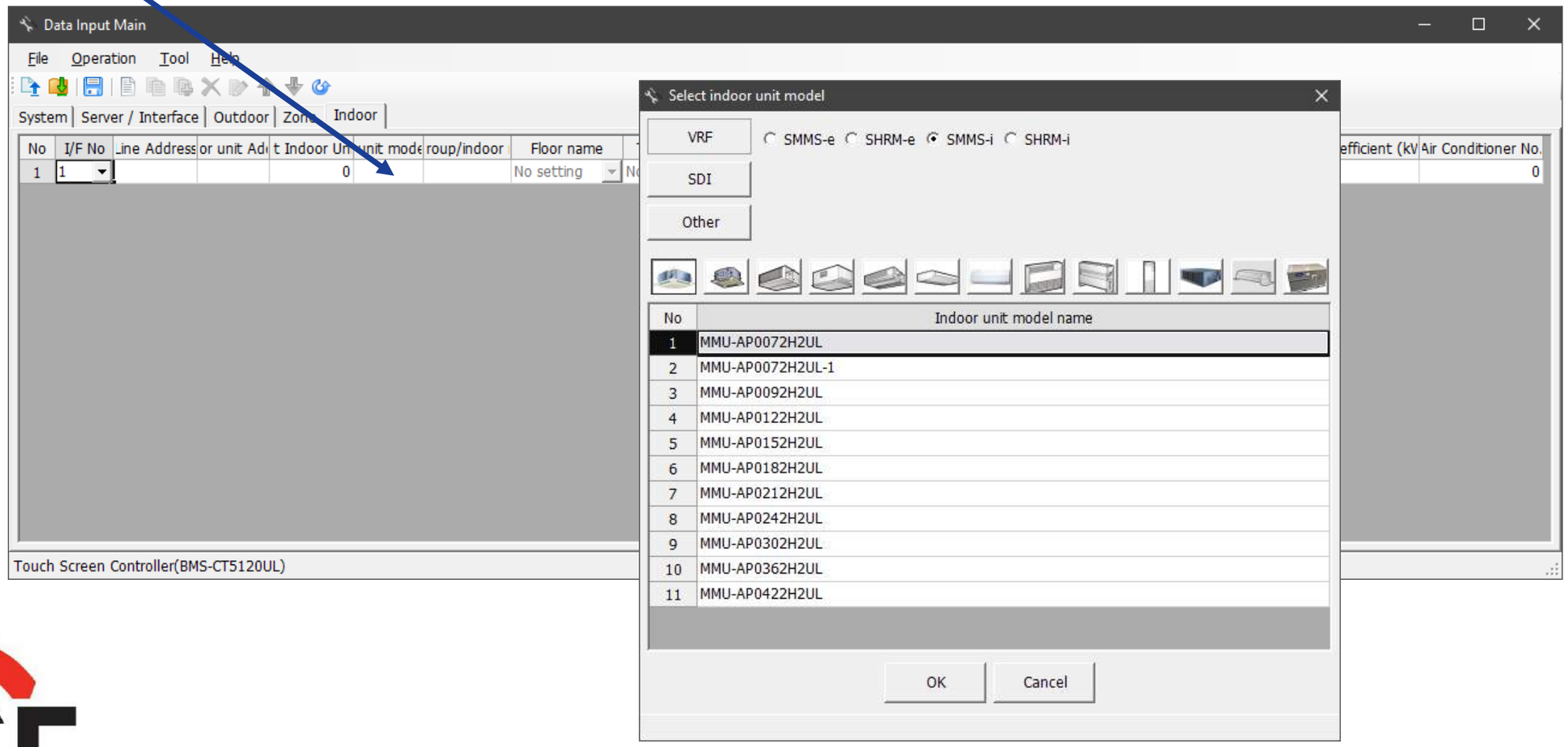
File Creation Software

14. Enter the Indoor units: “Operation” then “Indoor Unit” then “New



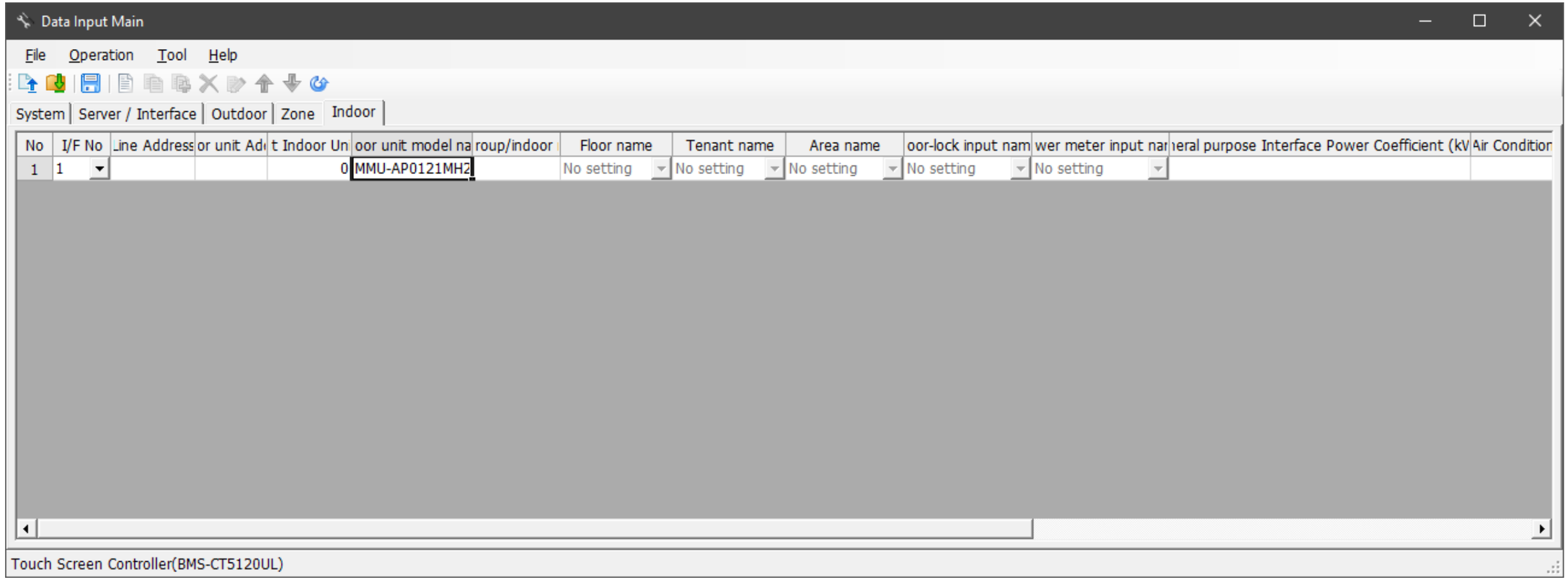
File Creation Software

15. Enter the Indoor units: “Operation” then “Indoor Unit” then “New”
    Double click in the model box and a second window appears, select the correct indoor unit.



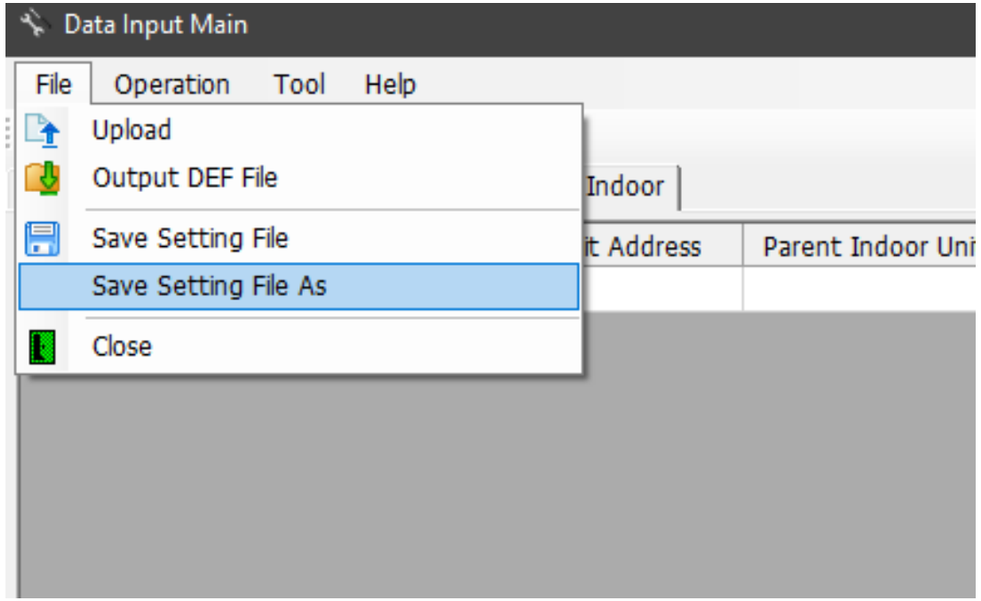
File Creation Software

16. Make sure to enter all other applicable information: Line Address, Indoor Unit Address and any of the drop downs for the Zones that might have been set up.



File Creation Software

17. Once complete, name and save the file.



18. Next change the IP of your computer to connect to the Touchscreen or BACnet so file can be uploaded.

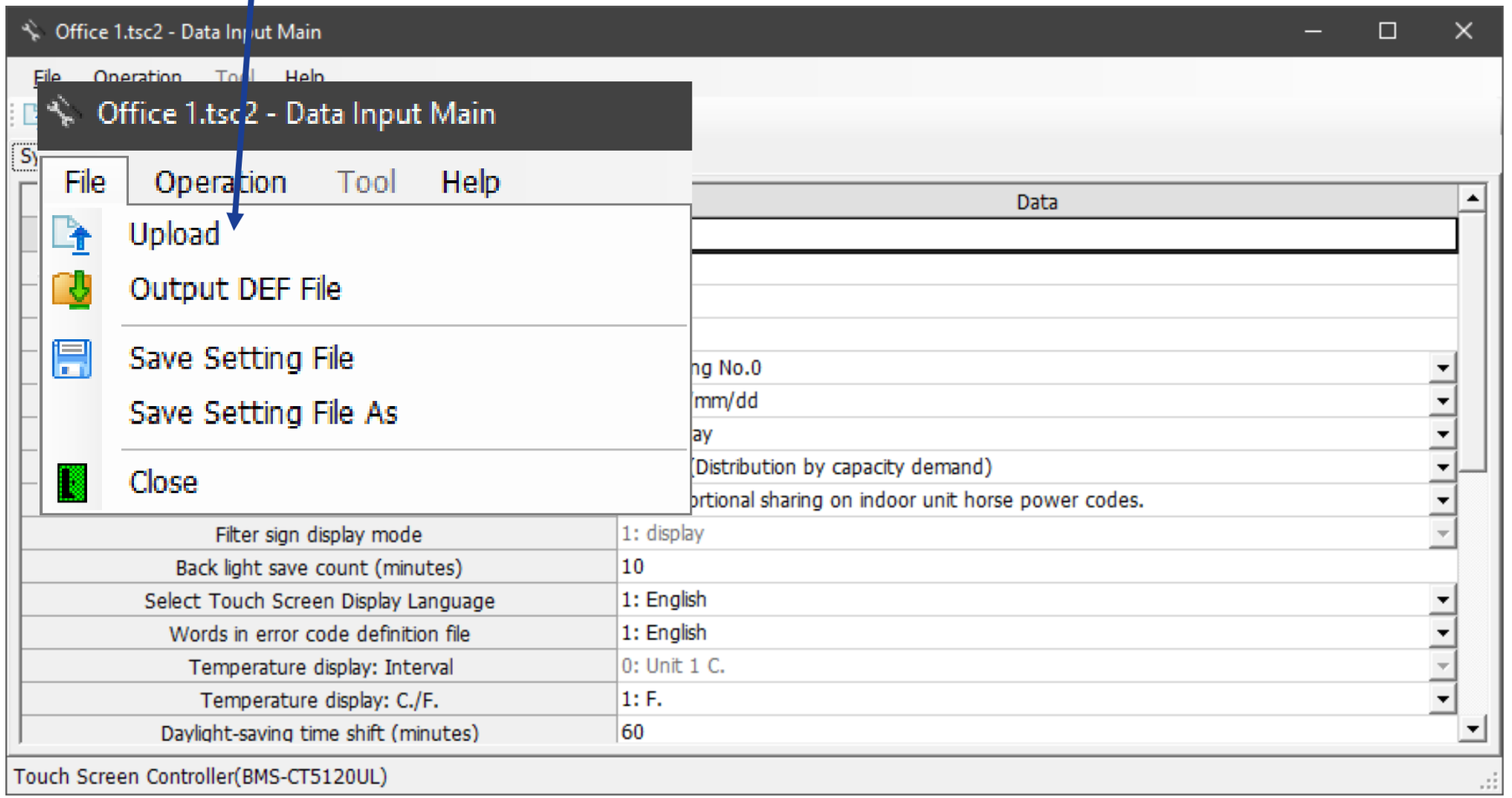
Change laptop IP to:
Touchscreen – 192.168.2.70
BACnet – 192.168.1.90

This will allow the laptop to connect to the device.

If laptop does not have a network port, a USB to Ethernet adapter can be used.

File Creation Software

19. To Upload file click “File” then “Upload”



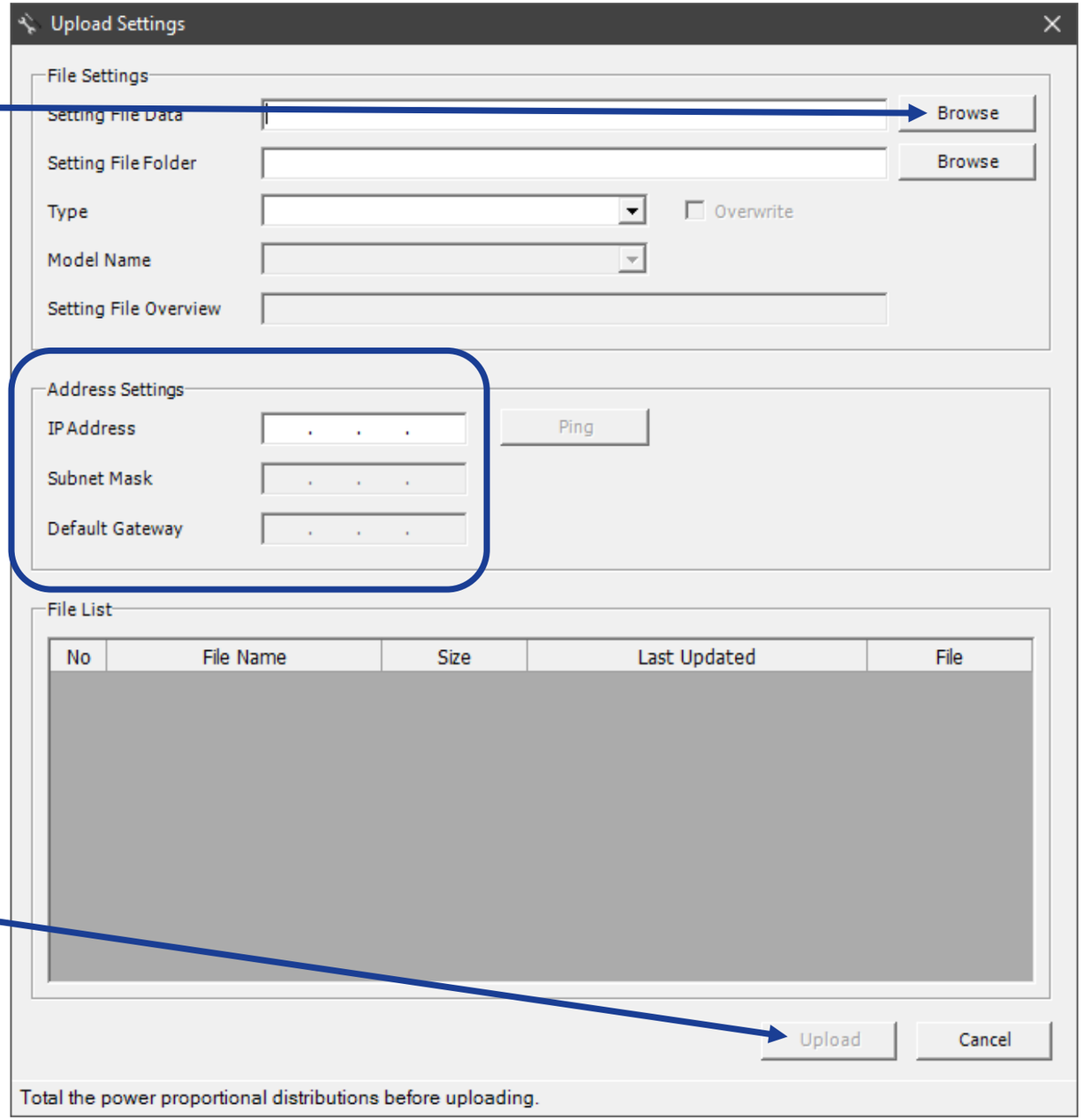
File Creation Software

20. Select file

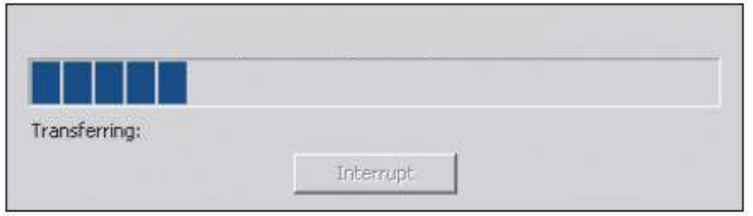
21. Change the IP and add Default Gateway if available.

22. After above are selected and the laptop is connected to the powered up device this button will be active.

    Once it is click to upload software file.



File Creation Software



Progress bar

23. A Progress bar will appear and help complete the upload. Do not disconnect power to the device during upload.

24. When complete, exit out and disconnect laptop. Recycle power to the device. Devices should be connected to BMS via the LAN port on each.

The Touchscreen will display all the IDU's and how they were set up in the Creation Software. The programming should be checked/tested and operation verified on the Touchscreen device.

For the BACnet the Front End or BMS Integrator onsite should now be able to search for the equipment through their system. Share the manuals with the Integrator, all the info the need is in them!

Now the new IP addresses will be in effect. If you need to connect your laptop to the device again, you will need to change the IP address one or more off from the new IP address that was uploaded to the device.

Example:

If the new IP address is 192.168.101.52, change the laptop IP to 192.168.101.53 to connect.

This guide was made by Carrier Northeast Technical Services Department.

Information within is subject to change